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EDITORIAL CONTENTS

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FEATURE ARTICLES

Operators Rally to Hold National Body	14
Mechanical Memos for Men-At-Wheels	16
Intensity of Use Controls Truck Operating Profit....	18
Overloading the Jack Costs Jack	21
A Good Leg is a Legacy When the Stake is Safety..	22
Operators! Beware of Rackets in the Name of the	
Law	24
The Album	26
Operating a Brewery Fleet is Just Beer and Skittles.	28
Trial by Jury in a Court of Safety	30
Porcelain Enamel	33
Super-Inspection Every 10,000 Miles Sliced Our Costs	34
Evil Effects of Evil Regulation	37

DESCRIPTIONS

21 Models in New M-H Line	38
Dodge Has New 3-Ton Series	39
Vel-Vacs for Trailers	40
Bendix Vacuum Pump	40

DEPARTMENTS

The Overload	11
Ears to the Ground	13
New Products on Parade	41
News	44
New Truck Registrations By Makes By Months....	44
Commercial Car Journal Truck Specifications.....	51
Free Money Makers for You	83
Advertisers' Index	106

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JULY, 1935

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What is "Lubrication" . . . Who is it for . . .

"Lubrication" is a technical bulletin that deals accurately, authoritatively with specific matters of lubrication. One issue may deal with a specific type of machinery such as air com-

pressors. Another, may deal with all the types of machinery used in a particular field—such as coal mining.

For instance, in 1934, "Lubrication" dealt with these important matters—Plain Bearing Design, Construction and Composition. Electric Motor Lubrication. Lubrication Practice in the Coal Industry. Lubrication of Textile Machinery. Lubrication Requirements of Metal Forming Machinery. Variable Speed Transmissions—Thin Oil Film Lubrication.

"Lubrication" is written for the management seeking more economical plant operation; for the engineer, the superintendent, the machine operator who desires to keep his machinery working at peak efficiency. It is for the man interested in technical matters and the man concerned with practical matters.

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"Lubrication" is valuable because it gives complete and up-to-date information. It tells you what the

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"Lubrication" can be used by the executive as a guide to economies in power, maintenance. The superintendent, foreman, machine operator will find it a valuable aid in bettering machine efficiency, plant operation. Engineers will glean from it much helpful data on design and the latest advances in mechanical improvements.

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"Lubrication" is issued once a month. It is published only by The Texas Company. There is no cost or obligation involved in being a regular reader of "Lubrication." It is offered absolutely free.

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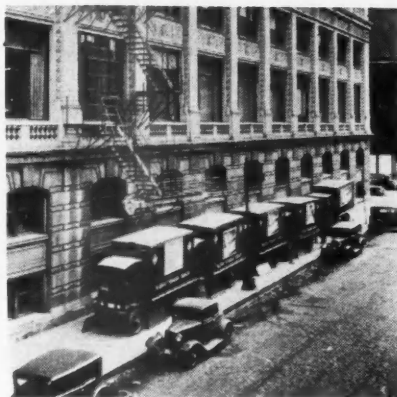
The Overload

Lading of the Payload

AS we shake out our gunnysack full of goodies for you this month, you will find, if you look carefully enough, a detailed report on a jack test. After reading it, you may change your mind about the ability of the jacks your drivers now have under their seats to do the job when the time comes. If, when you finish the jack study, you wish to occupy yourself with a non-mechanical subject for a few minutes, try the Guerin traffic court story. No matter how good or bad your accident record is, there must be a method of determining the responsibility or non-responsibility of drivers in accidents, and the traffic court seems to be the answer. You had better find out about it because it is a coming part of fleet operation, and chances are that you will be doing it some day, if you are not already.

Plunder of the Payload

WITH fire in our eyes and zeal of the reformer in our breasts, we went to fleet operators and asked them straight out who extracted money from them for no legitimate reason. Four out of five would not talk, but the fifth one usually did, so we are able to bring a number of the extortion rackets out into the light. We have probably missed some of them, but we have the most important ones, and the police lead the field against all contenders. In contrast to this serious business, we bring in Billie Burgan who tells you more about legs than Earl Carroll ever could. He even shows you why truck drivers' legs are as interesting as those



When the current failed in the studios of the Columbia Broadcasting System in Chicago, five electric trucks saved the day (and night). From the trucks lined up on the sidewalk current was piped to the studio equipment and the broadcast went on as usual

you see in the chorus. Try to classify legs with his method the next time you attend the performance of a musical comedy. One of our other investigators, who works along other lines, contributes his third article on railroad influence in western Pennsylvania. We can give you just a rough idea of his findings from an "of the record" statement. "I met many railroad solicitors in this territory all traveling by automobile. One of them showed me a pocket full of railroad passes, but said if he had to use them he would not do as much work in a week as his car enabled him to do in a morning."

You have heard a lot about synthetic enamel in the last few years, and now a fleet operator on the west coast tells you about porcelain enamel. He is a thorough-going gentleman. He does

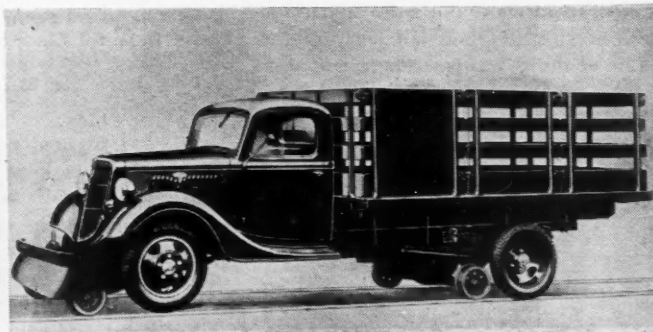
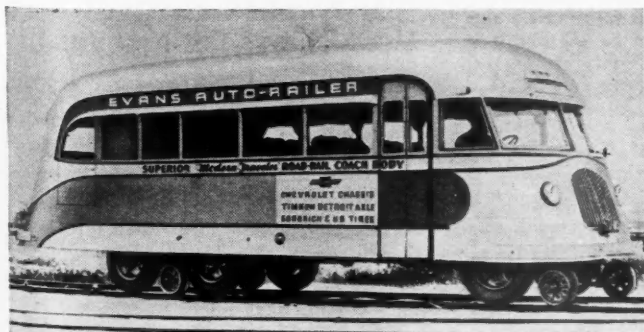
not give you an idea and then quit. He outlines the process with an accurate description and tells you the cost in dollars and cents. And, of course, your commuting Washington correspondent tells you what goes on in Washington. There are things afoot that need doing, but need doing cautiously. In a few minutes you get the news as well as a thoughtful analysis of what it means. On the tailgate four fleet operators hand out practical, first-hand information on four different subjects. You won't be wasting your time on any part of it.

Nationality of "Gunk"

FOR the benefit of those who were intrigued by the name "Gunk," we have dug into the matter with our usual fervor and found that it is of Irish origin. Now, if the Irishmen in the crowd will refrain from heckling, we will explain. The stuff originally had a long chemical name that nobody could remember or pronounce if they could remember it, but an old Irish car washer solved the problem by asking for that "Gunk" stuff. And "Gunk" it has become.

Silence, Please

AS you read this, you should bare your head and remain silent for one full minute as a token of respect for the Michigan State Legislature. Then you should rise and cheer, for the legislature adjourned this session without enacting a single anti-truck bill. Other legislatures, please note. Only one bill affecting commercial vehicles got through. That one



Evans "Auto Railer" Runs on Highways and Tracks

A vehicle for the transportation of freight and passengers over both rail and highway has been developed by the Evans Products Co. Any standard truck or bus can be converted for dual service by equipping with pilot wheels. These wheels are retractable and are automatically lifted and locked in the retractable position for highway travel by manipulating levers inside the cab. The drive on both rail and highway is through the rubber tires.

THE OVERLOAD

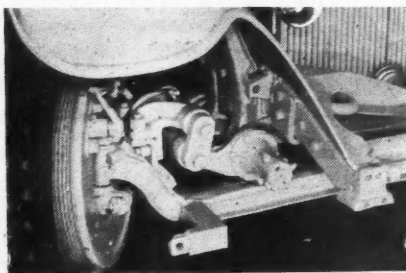
requires all school buses to be painted red, white and blue. It is not clear whether this was done to combat this red menace we hear so much about or to fool the children into thinking that the circus was in town. Anyhow, 15 men on the railroad lobby got only one bill and three colors into the books.

Life Begins at 60

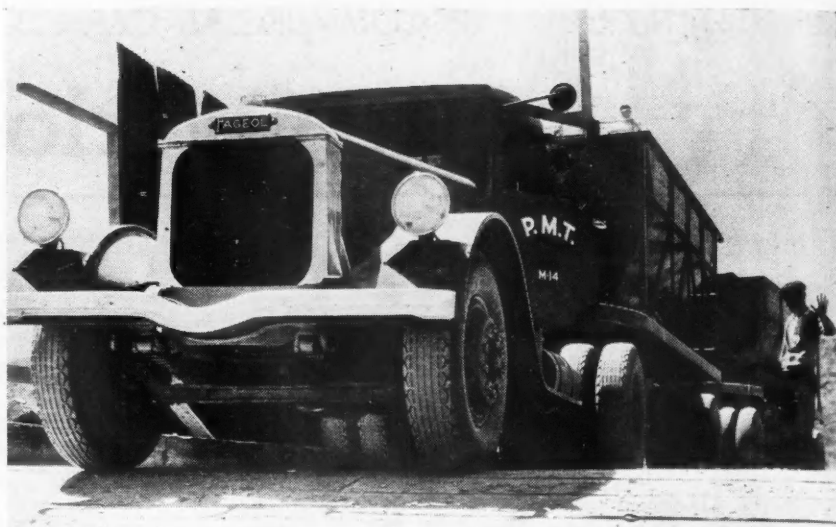
ALTHOUGH past 60 years of age, John H. Smith of Morgan County, Ill., has driven a Ford truck 120,160 miles in 3007 consecutive days. Daily milk delivery from his home to Jacksonville, Ill., gives him a 40-mile round trip every day, and he has missed only three trips in the last eight years. For three days he was snowbound at his home while the snow was so deep that no trucks were able to get through the roads. At this writing, he is still adding 280 miles a week to his record.

Tickets, Please

RECENTLY the Illinois Highway Police stopped cars at all intersections and handed a ticket to the operator of each car. With some relief the operators found that the tickets did not involve a chance to "tell it to the judge!" These tickets contained 12 safe driving rules under the seal of the state of Illinois and the name of the governor. Those responsi-



This torsion bar suspension is the property of the Truck Equipment Co. It may appear on a line of trucks soon in place of the conventional leaf springs

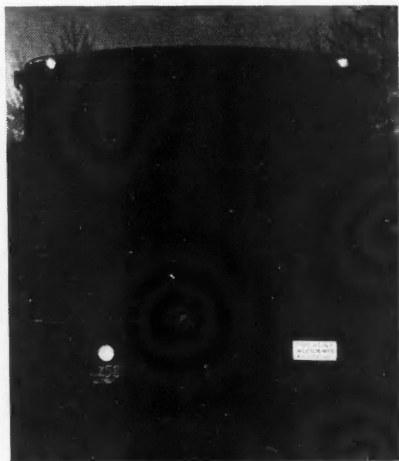


When the Southern Pacific leaves the rails, three of these Waukesha diesel powered trucks with two trailers each carry a carload. Cement is unloaded from the cars by a large vacuum sweeper and loaded into closed containers from there by gravity into the trucks

ble are to be congratulated. They have provided us with some evidence that someone in authority knows what highway police are for.

Light Up An Idea

BILL CLARK believes that if safety signs and slogans



All lit-up waiting for something to say. If you have any suggestions for a safety sign send it to Bill Clark and he will put it in the lighted box (above right) on the rear of his trucks for on-coming cars to read

are good, lighted ones are better because they work at night as well as during the day. He has designed a lighted sign to be mounted much the same as the taillight, and he is willing to equip his entire fleet with them if someone can tell him what the sign should say. He is not without ideas, but, if he is going to spend the money, he wants the best. The legend space on the sign, as you see it in the illustration, is 11 in. x 5 in. If you have any ideas, send them to William J.

Clark, Horlacker Delivery Service, 1230 Vine St., Philadelphia, Pa.

Speaking Out of Turn

SPEAKING out of turn gets you in all kinds of trouble. For instance, the railroads have been claiming that highways had to be 20 ft. wide only because buses and trucks used them, without knowing what they were talking about. They repeated the claim so often that they finally got Professor R. L. Morrison of the Highway Engineering and Highway Transport Dept. of the University of Michigan interested. With a paper based entirely on facts and figures from which accurate conclusions can be drawn, he shot the railroad side of the argument full of holes. Let us give you just two of his six conclusions. One is that the *per cent* of increase of truck accidents and non-truck accidents is approximately the same. The other is that the increase in the *number* of non-truck accidents is much greater than the increase in truck accidents

More Things For Nothing

CURRENT Truck, Bus and Trailer Wheel Engineering Standards—1935 edition. This is an instruction book and catalog of Budd Wheels and allied parts. Parts numbers, sizes, service instructions and other information is given supplemented by ample illustrations. If you want it check F on the coupon, next page.

The Standard Register Co. offers an illustrated pamphlet which explains its claim of greater profits through simplified records with its new continuous form motor freight system. Check B on page 13.

Ears to the Ground

INFORMATION WHICH IS INSIDE, ADVANCE OR JUST UNUSUAL

Beauty Pageant Coming

Beauty in truck bodies is expected to reach a new high this fall and winter. One of the largest truck companies tips us off to look for something sensational within 60 days. Another truck maker has enlisted the services of a nationally famous designer and his drawing board is expected to produce some ultra-ultra jobs.

Diesel Drive in Year

Things are lining up in the Diesel field. It is this department's prediction (and we won't say that there are no truck engineers who think likewise) that a year hence a regular drive on Diesels will be on among most manufacturers.

Add Half-Ton Jobs

We have more definite information about one of the half-ton jobs mentioned here last month. It will have a six-cylinder engine and the price may be closer to \$500 than to \$450. This same company plans to announce a new 2½-ton model within 30 to 60 days.

Fuel Injection

After perfecting a system of solid injection for gasoline engines in aircraft, a job in which the army helped, the Marvel Carburetor Co. is turning its attention to trucks and busses. Tests are now being run with this type of equipment which injects a stream of liquid fuel into the combustion chamber. A saving in fuel consumption of at least 10 per cent is supposed to be one of the results. The company warns you that this system is coming and coming fast, so be on the lookout for it.

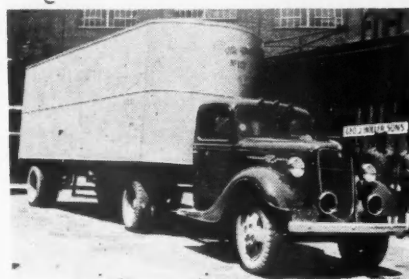
Muffler Ignition

One place you never expected to find a spark plug was in the exhaust system. If present plans go through a muffler will be placed on the market with a spark plug

attachment which ignites the mixture going through the exhaust manifold and then the combustion is carried on as long as the mixture is rich enough to burn. The purpose of the whole thing is to eliminate carbon monoxide.

Fog Light

From the Middle West where fogs are apparently fogs comes news of a fog light



Truck equipped with fog lights

which enables a driver to proceed through a dense fog at 25 to 40 miles per hour and know where he is going. The light will give him clear vision for from 50 to 150 ft. when he cannot see 5 ft. ahead of the radiator without it. Raindrops and snowflakes are invisible in the beam of this light and, in addition, the light is a good light for normal driving. The gray wall in a fog is entirely eliminated when looking at it from behind this light, and there is no glare to the oncoming traffic. Check "A" for details.

Signs of the Times

A new type of outdoor aluminum sign has been tried out on a number of trucks and has worked out very well. With this sign it is possible to have your name or trade mark shine right back at the source of light at night much the same as a clearance reflector thus giving a day and night value. You can find out more about it by checking "C" on the coupon.

Camouflage

A new enamel has recently been developed for which it is claimed the properties of camouflage. If used in the correct color it will hide the irregular surface of metal castings and the imperfections in metal surfaces by creating an optical illusion. Further it is said that the finish will not chip, flake or peel. You can find out more about it by checking "E" on the coupon.

Rumor

We have been given to understand that one truck manufacturer has built and put into service 25 trucks with air cooled engines. We are packing our grip to chase this one down and if we catch up with it we will report further next month.

FREE FOR THE CHECKING

(Check and mail to
The Editor, Commercial Car Journal
Philadelphia, Pa.)

- ☐ A—Dope on the Fog Light
- ☐ B—Booklet on Greater Profits Thru Simplified Records
- ☐ C—Dope on a new kind of outdoor Aluminum Reflector Sign
- ☐ D—S K F Bearing Catalog showing locations and types of Bearings
- ☐ E—Information on the new "Camouflage Enamel"
- ☐ F—Truck and Trailer Wheel & Tire Data Book

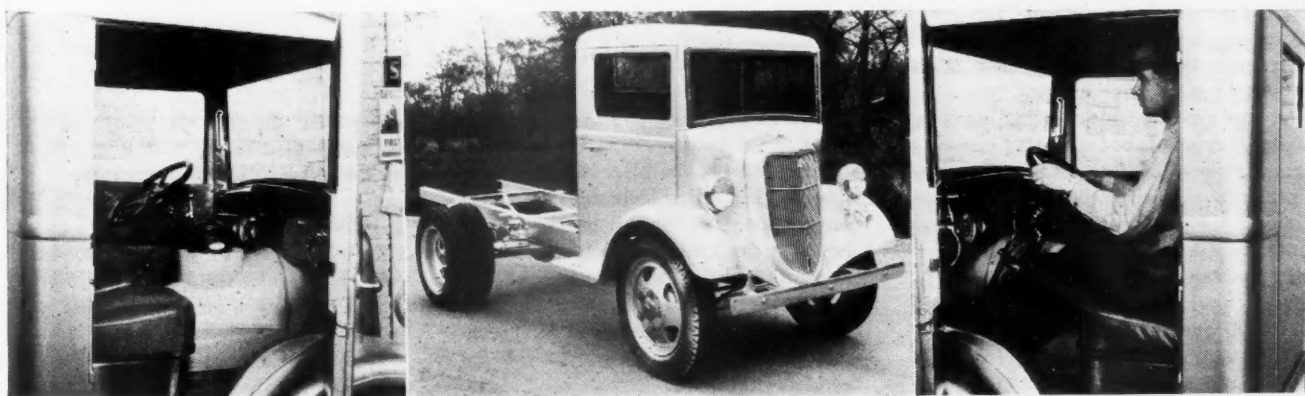
Name.....

Title.....

Firm Name.....

Address.....

No. Trucks Operated.....No. Cars.....



This is The Twin-Flex Co. Ford camel-back adaptation, which was one of the objects of our reflection in this spot last month. These views will give you an idea of external and internal appearances and convince you that the driver isn't cramped. If you want load-space dimensions and such, just say so.

Shirt sleeve scene at the first day's meeting of . . .



Operators Rally to

Plan to Raise \$250,000 A.T.A. Fund in Year, Reshape Legislative Policy and Permit Divisional Groups Within A.T.A.

By **GEORGE T. HOOK**, Editor

LEADERS of the trucking industry met in Washington in the middle of June, argued and sweated throughout two blistering days and nights and then scattered to the four parts of the nation after taking steps to perpetuate their national organization—the American Trucking Associations, Inc.—and agreeing upon the policy to be pursued in regard to Federal regulation of interstate for-hire operations.

It was a memorable meeting, one that will be remembered for the generous manner in which less than a hundred operators, realizing the need for continuing the national organization, voluntarily subscribed \$12,870 as the first step in raising \$100,000 immediately, and a total fund for the industry of \$250,000 during the first year.

Operators were present from 27 states, representing every region from coast to coast and from border to border. All types of haulage were represented.

The cause of the “call to colors” was the U. S. Supreme Court’s decision making a museum piece of the NRA Blue Eagle. With code regulation declared unconstitutional it became necessary for the trucking industry to reshape its policies and provide for the future. It was the code that unified the industry. It was the code that furnished the financial props for the national organization. It was around the code that the industry formulated its legislative policies. Obviously when the code was kicked out, chaos was kicked

in because the industry was right in the midst of a tussle with Congress on the Eastman legislative program.

THE call to arms sent officials of the A.T.A. scurrying to Washington. They were members of the Legislative, Policy and Executive Committees, and the Board of Directors.

The Policy Committee, after lengthy debate, voted instructions to the Legislative Committee to continue support of the Eastman motor vehicle regulatory bill and, while indicating the course of

... industry's leaders to plan for codeless future



Hold National Body

BRIEFLY, the emergency meeting of the A.T.A., called because of the outlawing of the code, accomplished the following: Decided to continue supporting Eastman bill with amendments, one of which calls for a larger I.C.C. and a Highway Division to administer regulation; amended by-laws to permit membership of individual operators on a service fee basis; granted over-the-road interstate haulers and other groups permission to form divisions within the national organization. Operators present subscribed \$12,870 to the A.T.A. preservation fund.

action which ought to be pursued, gave the committee practically free rein to get the best possible legislation in the interest of the industry.

This course of action included support of the Eastman bill with major and minor amendments already adopted by the Legislative Committee, and stipulated that every effort be made to insert an amendment into the bill covering the best features of code regulation or, if that were impossible, to seek passage of a corollary act embodying the code, modified to conform with the Supreme

Court decision and providing better rate provisions. The latter bill would, if enacted, be under the jurisdiction of the Interstate Commerce Commission.

THE effort to have code features retained in some form was determined despite an undercurrent of feeling that the chances of success were slim. The trucking industry is in no position to force the issue. The House subcommittee, where S-1629 (the Eastman regulatory bill) reposes at this writing,

has not shown itself receptive to suggestions. If the code issue is forced, some of the other amendments desired by the industry may be placed in jeopardy. That is why the Legislative Committee was voted a free hand to try for the utmost, endanger nothing, and come out with the best it can get.

One speaker declared that there was a better chance of having the code made into a separate law. He argued that the industry was in a good tactical position for that because the Administration wants to salvage its NRA idea and may throw its support to a separate law that seeks to preserve code principles for the trucking industry.

This writer is of the opinion that no part of the code stands a chance of getting by Congress either as a separate bill or as an amendment to the Eastman bill, that the Legislative Committee will find this out in a jiffy, and that it will concentrate on the so-called

(TURN TO PAGE 67, PLEASE)



Clinton Brettell

IGNORANCE may be bliss to some people but never is mechanical ignorance bliss to a driver who, far out on the open road—or in congested city traffic, for that matter—suddenly finds himself in the company of a truck gone temperamental. Then is when he appreciates the value of knowing some of the rudiments of trouble shooting.

In this article, Mr. Brettell, who is president of the Motor Truck Maintenance Club of New York, outlines in simple question and answer form some of the more common problems that may confront drivers and tells what to do about them.

Mechanical Memos for

1. How would you start a motor in cold weather?

- A. Pull out choke.
- B. Open throttle slightly.
- C. Throw out clutch pedal while turning motor over with starter to release drag of transmission on battery.
- D. Turn on switch.
- E. Push in choke halfway, then press down on starter button with clutch still disengaged (but don't churn starter)—if motor does not start—wait—then repeat same operation.

2. How would you handle an overheated motor in warm weather?

- A. Check radiator for lack of water or for leak.

- B. Check fan belt—see if broken or loose.

- C. Check spark and see that it is advanced all the way.

- D. Check oil level and add oil if necessary.

- E. Precaution: To fill radiator after motor has been overheated, open hood and let motor cool until you can hold your hand on top of cylinder head, then add water slowly. Never add cold water to a hot motor or warm water to a cold or frozen motor.

3. How would you locate motor troubles on road when your motor would not start?

- A. Starter won't turn motor over—Turn off ignition switch and try to

crank motor with hand crank. If motor cannot be turned, place shift lever in high speed and rock car back and forth or get car pushed. If this cannot be done, loosen starter and release Bendix gear.

- B. If motor can be turned with crank handle, first turn on lights, then step on starter button. If lights go dim, battery is weak, or one of the battery connections is loose. If starter turns and motor does not, this indicates trouble in Bendix drive on starter. Start by hand or 'phone garage.

- C. Motor refuses to start. Examine for dead battery, loose battery terminal or ground connection.

- D. Fuel shortage. Examine gas tank and make sure it has enough gas.



Far left—Water is often the answer to an overheated motor's prayer—drivers please copy and note spout of water can resting in palm of hand to prevent scratching radiator.

Left—Proper way to close cab door is to use a slow stiff-arm push with driver's weight behind it. This method keeps glass intact.

Above—Riding the clutch—something not to do. Right—If ignition trouble, dry and clean the points



Men-at-Wheels

By **CLINTON BRETTELL**,
Superintendent of Garages, R. H.
Macy & Co., Inc., New York City

A Catechism Coined Especially for Drivers Who Want to Know How to Administer First Aid to Trucks Disabled Far From the Shop

E. Fuel stoppage. Check and see if gas is getting to carburetor. If not, fuel pump or gas line may be at fault. Call garage.

F. Faulty ammeter. Examine the ammeter on dash by turning on ignition switch and turning motor over with starter. If the hand on the ammeter wiggles back and forth, look for a loose coil or condenser wire. If this is not the trouble, then call garage.

G. Faulty ignition. If ammeter hand does not move, this is due to points not making proper contact. Remove distributor cap and rub the two points together with ignition switch on until a good spark appears. Then replace distributor cap and rub the two points brush, rotor and cap are put back properly. Hand should now move.

H. Motor races. Examine and make sure throttle is retarded. Examine ac-

celerator spring. If broken, make a new hook on spring and replace again, or tie up with piece of string to steering column so throttle can be pulled closed by hand.

I. Motor sluggish. If car has a hand advance, see that it is actually working. If no hand spark advance, distributor may have worked loose due to clamp bolt loosening up and allowing distributor to turn, or if car is equipped with timing chain, cause may be from chain stretching and jumping teeth.

4. How should clutch be used?

A. Always allow clutch to idle properly before shifting into speed. Don't clash gears.

(TURN TO PAGE 101, PLEASE)

July, 1935

THE intensity of use to which the units in an automotive fleet are subjected enters largely into the success of the entire enterprise and, consequently, into the extent of the profits that may be derived therefrom. The more any given truck or other vehicle can be used during any period; the more service that can be crowded into its working day; the more its total length of life can be extended—then the greater its usefulness, the more extended its value to its owners, and the more it contributes to that profit-making which is the legitimate aim of all business. It may be a trite saying, but it is none the less a true one, that there is no profit in idleness, and that you can't make money from a truck standing still in the shop.

There are, in turn, various factors which contribute to a greater intensity of use for trucks. It is my intention to outline our experience with reference to some of these factors.

From an operating standpoint there is, first, the routing of trucks for the day's deliveries. The efficiency and skill with which the movements of these trucks are scheduled and carried out have much to do with the economy of operation that is aimed at in the conduct of the fleet as a whole. If the person who is assigned to the task of directing the activities of trucks lays out a sequence of stops, and routes the trucks in a way that will conserve time and labor and avoid overlapping of movements, providing the most direct route in covering the necessary ground, he will have taken a long step forward in the program of economy.

IT is not practical, of course, to insist on too rigid an adherence to such a routing, or schedule of calls, for special calls and unexpected deliveries sometimes upset the route chart. But one can follow this method of procedure with sufficient fidelity to make sure of getting results and of showing a definite improvement in the cutting of costs and increasing of profits through increased intensity of use of trucks. If a truck's duties are shortened so that it covers a certain ground or number of customers with less travel and in less time, it follows that it will have more time for other calls elsewhere, thus bringing about the desired greater intensity of use. In the larger cities it is a general practice to assign one area to one driver (or to two drivers where there are two shifts), as

well as to provide a certain amount of flexibility in the delivery to permit the driver to answer short calls. We also endeavor to educate the customers to telephone in their orders regularly, which helps to make possible the systematic routing and time-saving heretofore mentioned. It is possible, thus, to deliver in the late afternoon, or at night where there is a night shift, the short orders that have come in earlier in the day and to deliver the next morning those that are sent in during the late afternoon or evening. These are handled either by the driver in that

territory, or by another who devotes himself entirely to delivering short orders, or by a driver who has a shorter route.

IN the smaller towns—and particularly in the rural communities, distribution is largely by means of what is frequently termed "peddling." In this practice, the driver calls on all places on a given route, either to solicit orders or to deliver supplies. Here, too, the telephone may contribute to economy, for in many instances the driver may arrange with the customer to let him

By
**JAMES C.
BENNETT**

Manager Automotive
Dept., Associated Oil
Co., San Francisco



Intensity of Use Controls Truck Operating Profit

It's Just Plain Horse (Remember?) Sense That the More Use You Make of Your Trucks the Thinner You Spread the Fixed Charges and the Thicker Comes the Profit Margin

THIS is Fleet Operator Bennett's second article and in it he tells how intensifying the use of automotive equipment enabled him to get the most out of his fleet of trucks at the least expense to his company. The three factors in his intensity-of-use program are: (1) routing, (2) distribution of time for truck and driver on the road, and (3) maintenance. Try the idea on your own cost sheet.



The above equipment, carefully maintained makes "intensity of use" possible. Uniformed inspectors check the meters (top) on gasoline tank trucks while the units are being loaded at a central supply depot (center). Bottom—The discharge hose reel provides a convenient and safe means for carrying the hose

know by telephone of the state of his supplies of our products. Thus telephone calls save travel, and increase the volume delivered per mile of travel—increasing the truck's intensity of use, and its profits.

Another factor in intensity of use, from the operator's standpoint, is real-

ized by a study of the time required by—or appropriate to—the driver's various duties and movements. This is to be undertaken, of course, with the full knowledge and cooperation of the driver. Possibly, it could be done by the driver himself, but this would interfere with his "productive" time.

Hence it is better done by one who travels with the truck for this particular purpose.

The factors which determine the effectiveness of drivers' movements are:

1. The average speed during the time of actual travel.

(TURN TO NEXT PAGE, PLEASE)

INTENSITY OF USE CONTROLS TRUCK OPERATING PROFIT

2. The time for solicitation at the customer's place of business.

3. The time for "spotting" the truck and connecting the delivery hose.

4. The average rate of delivery (e. g., in gals. per min., in our case).

5. The time for disconnecting the hose and preparing the delivery memorandum.

6. The time required to obtain the customer's receipt, or to make cash collection.

7. The time to turn in cash or receipted delivery tickets at the end of each trip, and to make such reports as may be required.

8. The average rate of loading (e. g., in gals. per min., in our case).

EACH of these factors warrants a somewhat exhaustive study, for there are many variables, and it is necessary to develop average values if they are to be used with intelligence and assurance.

The greater intensity of use affected by this program is reflected in the increased mileage which our trucks have achieved. At the start we averaged between 1000 and 1100 miles per month per truck. Today we are averaging between 1300 and 1400 miles a month for all of our trucks. In the East, where the territory is more congested than in most places on the Pacific Coast, they can operate their trucks 14 and 16 hours per day. We are doing it in the bigger cities on the West Coast, notably in San Francisco, Oakland and Los Angeles. We can safely figure that we have effected at least a 20 per cent increase in mileage in our territory by these methods.

This means a reduction in the fixed charge against the truck corresponding closely to the increase noted in intensity of use. It also effects a decided decrease in the number of trucks required, since one truck can cover a great deal more ground per day than formerly. Where we were employing a group of six or seven trucks, we now can do the same work with five or six. This is one of the factors in the lessened costs total. It covers the operating factor in intensity of use and may be expressed: "You can do more with it if you keep it busy longer."

THEN comes the effect of maintenance on intensity of use. By keeping the trucks always ready to go and providing for maintenance work outside of productive hours, we afford more hours in which the truck is available for use.

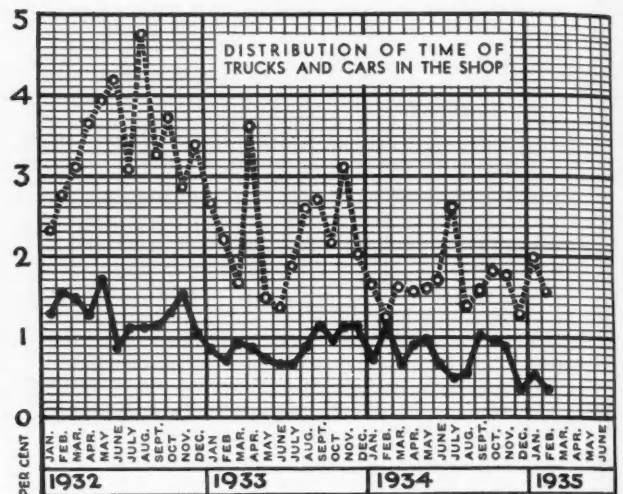
This is the planned and preventive maintenance which doesn't wait for the breakdown. We schedule our shop work carefully and systematically.

One effect of our maintenance methods is shown in the decreased quantity of relief equipment required. Before we installed our present system, the proportion of relief trucks to those in regular service was one to 10. Now it is one to about 17 or 18. With a carefully planned maintenance program, as well as judicious attention to assignment of relief trucks, it is possible to put relief equipment into service sufficiently so that it is given almost as much use as are the regular vehicles.

The effect of scheduling shop hours and carrying on preventive maintenance is also shown in the amount of time that trucks are out of service because of shop requirements. Five years ago the time that each truck was out of service, that is, in the shop for repairs or other attention, averaged one day in 33. In 1934, the average was one day in 143, or two and one-half days per year for each truck for any cause whatever. That even included the trucks' painting, which requires from six to 10 days for each truck so treated. It is obvious, of course, from the figures quoted, that we do not paint the trucks every year. Formerly a paint job lasted from 15 to 18 months. Now, because of applying our studies of materials and methods to painting projects also, it remains in service, and in good condition, for three years or more.

ONE of the factors in the reduction of truck equipment and the consequent greater intensity of use of the remaining units was concerned with the establishment of a minimum rental charge for use of that equipment by the different departments of the Associated Oil Co.

With the consolidation of all of the company's automotive equipment into a single fleet, a plan was inaugurated

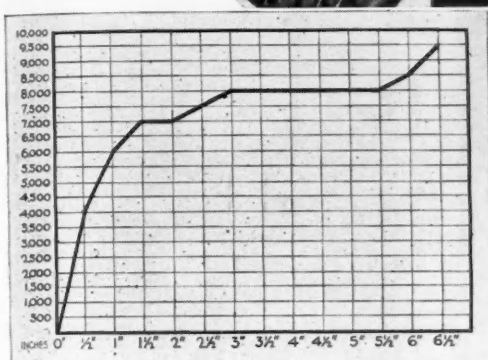


Trucks and cars spend less time in the shop for repairs under Fleetman Bennett's "intensification of use" program. Chart shows the per cent of time cars (dotted line) and trucks (black line) spent in the shop from 1932 to February, 1935

whereby the vehicles are rented to the various departments. The departments are charged a uniform rate per mile of travel, according to the size of the vehicle and according to the character of service in which it is used. The mere fact of consolidation was a contribution to more intensive use since any vehicle which became superfluous—even though it was but temporarily so—was made available for use at some other point or in some other service.

For some time the method of distributing the expense of maintenance and operation was through the use of "rates per mile" exclusively. Hence the expense incurred by the operating department varied directly with the number of miles traveled. But this was not conducive to the use of vehicles to their maximum capacity. There was the very human reasoning that an idle vehicle incurred no expense, and that it was desirable to hold one or more in readiness for some possibly unexpected demand—in short, there was developing a tendency to "hoard" both trucks and cars. In time it became evident that, to counteract this tendency and to conserve the company's best interests by curbing such an uneconomical practice, it was necessary to adopt a plan that would stimulate the use of every piece of equipment to its utmost—one that would impose a penalty for keeping an idle truck on hand, and that would encourage the intensive—but productive—use of automobiles.

(TURN TO PAGE 64, PLEASE)



As this test was made with standard Simmons hydraulic jack equipped with load gage, under truck of 15,000-lb. gross tonnage, the graph (left) was charted showing the weight on the jack. Each horizontal line represents an addition of 500 lb. on jack. Each perpendicular line represents an additional 1/2 in. of lift

Overloading the Jack Costs Jack

Facts About Jacks Lifted from Tests Tell Operators a Thing or Two They Never Knew

MOST jack failures are due to overloading of the jack. Overloading in most cases is done unintentionally and is the result of ignorance of the amount of weight that the jack is called upon to lift.

It is the general supposition, in the absence of facts, that the gross weight of a truck divided by four will give the amount of weight on each wheel. For instance, if the gross weight of a truck is 15,000 lb. it is often assumed that 15,000 divided by four, which is 3750 lb., is the weight on each wheel and that a 2-ton jack should be ample for

the load. This is not true. The actual load on the jack with the ram raised 6 1/2 in. is 9500 lb. This figure was determined by actual test and it indicated that a jack of four or four and one-half-ton capacity should be used. The reason for this is that as the axle is being raised the jack assumes more and more of the total truck weight and in this particular example the weight actually amounts to 63 per cent of the gross weight of the entire truck.

The accompanying graph tells the story of increasing weight on the jack as the axle is raised. The readings

were taken every half inch of lift. The test was made with a standard Simmons hydraulic jack of 4 1/2-ton capacity. The jack was equipped with a load gage and was placed between the rear spring clips directly under the axle. The truck had a gross weight of 15,000 lb.

WHEN the ram of the jack has been raised 3 in. the amount of weight on the jack was 8000 lb. or over 50 per cent of the gross tonnage. During the next 2 1/2 in. of rise there was no increase of the weight on the jack. This was due to the shifting of the load to the other three wheels and to the give in the frame and springs. Then with the next inch of rise the weight on the jack increases 1500 lb. A greater rise would show a graph line almost perpendicular as the jack assumes the load at a rapid rate after the 6 1/2 in. rise.

It is obvious from this test that a jack of at least 5-ton capacity is necessary for this truck and load. A series of tests have established the fact that a jack capable of handling 60 per cent of the gross weight of the truck should be used as a minimum in selecting the proper sized jack if low-cost trouble-free service is to be expected.



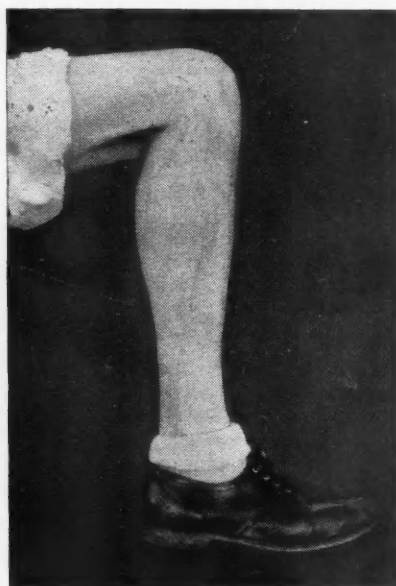
Despair leg—rides the brakes and stops a few feet before or past the mark—a brake lining waster



Atlas leg—has no braking sensitivity. Leg action is a short "pressure" and the truck over-shoots the mark



Hercules leg—has a heavy foot with power and punch—stops hard enough to strip the differential spider



A Good Leg is a Legacy When the Stake is Safety

The Value of a Chorine's Limb Depends On Its Shapeliness, But Be It Ever So Knotty, Any Chauffer's Dogs Are Worth Ten Grand Any Day

By **BILLIE BURGAN**

Fleet Superintendent, Hage's Ice Cream Co., San Diego, Cal.

LET us take this business of legs seriously for a moment. They are that important part of the brake linkage between the brake pedal and the sitting room. Plenty of attention has been given the brake system below the pedal and almost as much to the selection of drivers who have a favorable brake reaction above the ears, but for the most part legs have been neglected.

A good brake leg is worth \$10,000. The reason for this lies in the law making an operator liable up to that amount of indemnity to others in case of accident. So you see a really capable brake leg can easily be worth that amount in cash.

The big problem is to stop safely, efficiently, without noise, 110 times and up daily, in wet or dry weather, and at low cost, too.

Men, show your legs!

Feel the leg muscles on a good truck driver and you will understand the jealousy of the learned brain trusters who say man is worth any amount above the ears and below them \$1.50—no more. They have my permission



Sampson leg—quick and sure-footed, registers perfect reaction. The ideal leg on brakes



TRUCK Drivers' legs may not be beautiful to look at but they certainly are practical. If they aren't their inefficiency will be reflected in costly accident records and high brake maintenance costs. In this article Fleet Operator Burgan presents the results of some original leg research. He classifies legs according to their braking ability and indicates that good legs are a necessary part of a good driver's equipment. (Oh, in case you can't keep your eyes off the beautiful blondes and want to add an address or two you'll have to see Earl Carroll because they're his Vanities Girls)

to ride with a \$1.50 leg but for me let the men roll them high so I can see if there is a \$10,000 member below the sitting room masquerading under the \$1.50 brain trust boundary. I prefer to ride with a \$1.50 brain over a \$10,000 leg in preference to a \$10,000 brain over a \$1.50 leg posing as brawn but difficult to see.

A good leg brings the truck to a stop from a 20 mile speed in 3 seconds and 40 ft. of travel. This stopping operation is more economical than with a leg which takes 6 seconds and 90 ft. of travel. Pedal pressure period more

than doubles for some legs and the fellow who begins to stop in the next block, 400 ft. away, requires frequent brake adjustment and never gets high mileage from brake lining.

Let us classify legs to better understand their several characteristics. First there is the Sampson leg. It is shapely, quick and sure-footed, powerful and operates with a measured step characteristic of good braking. The Sampson leg is fully sensitive and notifies its owner instantly of any change in either mechanism or lining.

The Atlas leg is straight and heavy.

It is not so quick or sure footed as the Sampson, but is quite as powerful. Feet drag somewhat as though the weight of the world were on them. The Atlas leg is a little conservative in action and the truck goes past the mark, sometimes suffering minor scratches and collisions.

The Hercules leg is round and muscular. It lifts feet easily and sets them down heavily—a positive, powerful punch, equal to either of the other two for power and action. It stops the truck ahead of the mark. It is a

(TURN TO PAGE 66, PLEASE)

OPERATORS!! BEWARE OF RACKETS IN THE NAME OF THE LAW

FLEET operators have been made the victims of so many rackets that it is a wonder some of them have survived at all. Protection from highjacking and arrest became a highly developed art during the days when liquor-laden trucks were illegal and as a result, fair game, but now that the game has departed the police refuse to let the art become lost. In fact the technique has become more highly developed than ever. From the occasional pot-shot at pocket money from the bootlegger the police efforts have progressed to a volley which with machine gun precision mows down the profits of common carrier operators.

Highjacking has been treated editorially in a previous issue of *COMMERCIAL CAR JOURNAL* and will undoubtedly come in for attention again, so this article will be confined to the various phases of "protection." Under the general heading of protection there is the "vacation club," the "Christmas Club," the "side line," the "weigh-master wrinkle," the "magistrate's magazine," the "Traffic Club" and the "commodity impost."

If we understand the purpose of law enforcement correctly, officers are assigned to highway duty to protect the users of the highway. If this is correct, some of the highway officers have confused the definition of the word "protection" with the meaning of the word "protection" when used in the jargon of the racketeer.

BECAUSE of the nature of the subject of rackets, it was hard to get fleet operators to talk. No individual fleet operator could afford to go on record as having much to say about rackets for the simple reason that he would be singled out and put out of business by the very agents created for his protection. Only by presenting a united front can fleet operators hope to escape the toll which is being collected and used to finance other methods of collecting money from fleet operators. And if an editorial airing of rackets in *COMMERCIAL CAR JOURNAL* will help in welding the ragged and disconnected front now being held up to racketeers, *COMMERCIAL CAR JOURNAL* is willing to do its part.

In reading the illustrations of rackets given on these pages do not

think of any of them as just a local problem. Most of them are repeated the country over. *COMMERCIAL CAR JOURNAL* has no desire to pin the rose on any one state. This is a collective bouquet and the blossoms were gathered from many hot-houses.

Some fleet operators who daily cross state borders have heard of the "vacation club." They learn from the members of the club and from club solicitors who may be, shall we say, state police, that a policeman's vacation is expensive. They also learn that highway officers' salaries will not defray the expenses of the vacations which they feel they must have, so fleet operators are urged to contribute to this informal vacation club. Fleet operators who had the courage to demur or suggest to the solicitors that they were

A Frank Exposé of the Itches for Ill-Gotten Gains That Torment the Palms of Some Long Arms of the Law and Make Suckers of Fleet Operators in the Trucking Industry

By HENRY JENNINGS



having some difficulty providing for a vacation for themselves and their own families found in the course of time that it was more economical to change their minds. It seems that it is cheaper to contribute to the vacation club than to hold out on it.

The solicitors who did the contact work for the vacation club were a mystery to the fleet operators. The fleetmen were inclined to believe that there was a minor racket in operation having to do with the collection of funds; that possibly the highway officers were not only not receiving the financial support but that they were unaware that such a benevolent organization was in existence. Because of the delicate nature of their relations the fleet operators were afraid to investigate. However, some part of their fears were soon allayed. Keen-



SOMETIMES those who wear the cloak of authority submit to the temptation of easy money, and use their positions to extort money from those whom they are chosen to protect. This article reveals the workings of these rackets that take the name of the law in vain.

Speaking recently to operators from 27 States, Ted Rodgers, president of the A. T. A., said that in the East alone operators were donating a quarter of a million yearly to this most ghoulis form of racketeering.

It's time operators ceased being saps.

and uniform will help with the side business. A stake in a gasoline station, or even a commission sales arrangement with one, has proved profitable. The sales promotion which is the officer's share of the work is easily accomplished. On his day off he visits fleet operators and tells them that they will buy gaso-

line from the station he is interested in—or else.

In addition to the uniformed force there is sometimes another group of highway officers. They patrol the roads in passenger cars which have no mark to distinguish them from any other car. The officers wear civilian dress. Their commonplace appearance permits them to augment their incomes without resorting to the mechanics of collection employed by the uniformed force. Their shakedown begins at the roadside and only these officers can tell where it

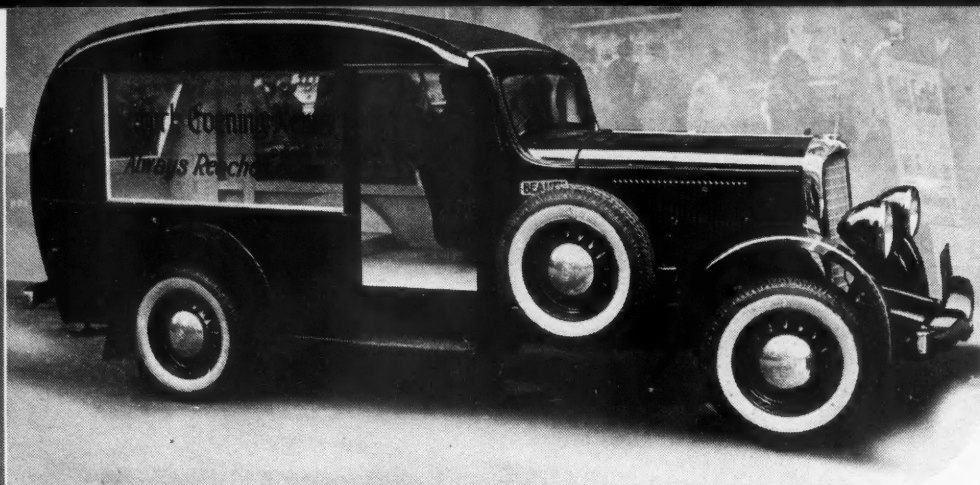
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eyed truck drivers here and there recognized the highway officers when they were not attired in the musical comedy uniforms, and even when they were out of their home state.

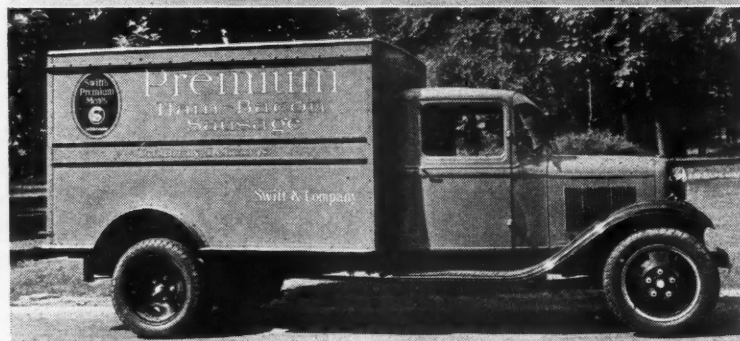
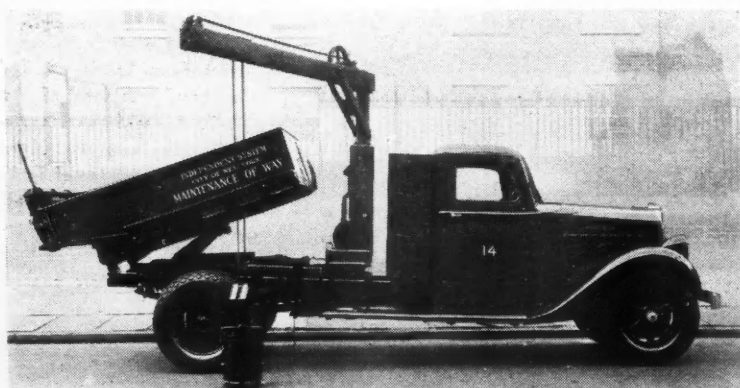
Some states must be very niggardly when it comes to paying law enforcement officers. Fleet operators who sent officers happily away on vacations that they themselves could not afford found that state salaries also fail to take into account that Christmas comes once a year. The holiday season is expensive and officers are unable to make incomes to cover the financial require-

ments of the season, so the fleetmen who cross the state are asked to make up their collective deficit. The amount of the contribution as a rule is not left to the fleet operator's judgment. The solicitor tells him the correct amount after first determining how many trucks he operates.

A SIDE LINE is always a good thing for an officer to have since the police business does not pay so well. Many of them are so engaged. If a closely related business is selected it is possible that the prestige of the badge



The ALBUM



“BEAUTY” is the name given this truck by its proud operator, the South End Express Co., Montclair, N. J., distributors of the Newark Evening News of Newark, N. J. The body, mounted on a Reo chassis, was built in South End’s own shop and was designed by operator Louis Kramer. Panels are of shatter-proof glass and the inside is illuminated. A large portion of the rear is also glass enclosed. Fenders are detachable. The body has but one door to prevent the driver from leaving on the wrong side.

NEW YORK City’s Independent Subway System uses this Studebaker Model T-865 chassis, on which is mounted a St. Paul body and hoist crane made by Silent Hoist Winch & Crane Co. for cleaning subway ventilators. A special crane runs out the bucket and then lowers it into the muck which collects at the bottom of ventilators. How many buckets make a “muck” load? The hoist will handle ashes and garbage, too.

SERVEL, Inc., Hercules Body Division, supplied Swift with this model 85OU2 body which Swift in turn uses from coast to coast to bring home the—ham! This particular body is built with an insulated roof covered with one-piece aluminum sheet metal to reflect heat. The exterior is galvanized sheet metal on plywood. The interior has a 24-in. baseboard of tongue-and-grooved pine, hardwood rails above and plywood ceiling. Call it “Aglow.”

JUST one of 20 semi-trailers that Poole Transportation, Greenville, S. C., acquired from the Kingham Trailer Co., to connect the North and South with a 36-hour service. The Kingham Model EF-30, 22-ft. closed van body gets its motive power from an International tractor. Body boasts such features as a round nose, rounded rear corners, full length doors, fully slatted insides and all-steel construction.

THIS is just another prayer answered by Fruehauf for big, commodious body that will carry plenty of folding cartons. Empire Box Corp., New York City and Chicago, did the praying. Tractor is a Ford V-8. Body is equipped with front, rear and port lights.



Of Modern Truck Transportation Equipment

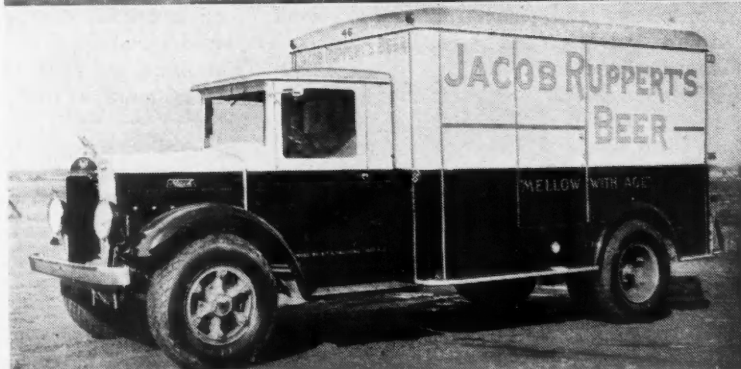
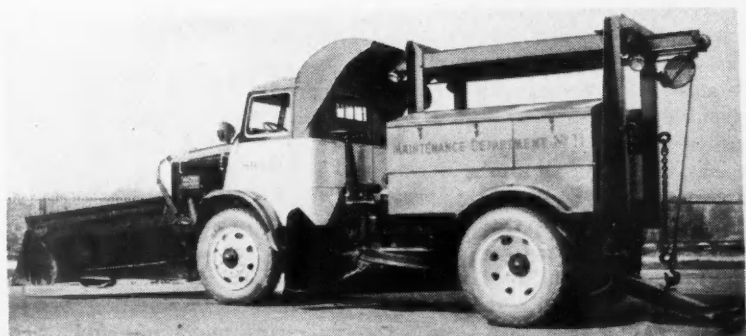
IT'S a honey! An Autocar streamline cab and chassis Model UD and a streamlined semi-trailer designed by Badger Trailer and Body Co. make up this spectacular combination. It is operated by the Olson Transportation Co. The lettering on the body is raised, cast lettering covered with white porcelain baked on. Lighting equipment is by National Automatic Safety Signal Co.

ALL set for the next snowstorm is this Walter Snow Fighter Wrecker operated by the S. Ry. Co. And can it shovel snow! The chassis is Walter Model FCS with four-point positive drive, 120 h.p. engine and is equipped with a center scraper blade and a one-way speed plow in front. The body is provided with a jaw clutch drum winch and rear towing equipment.

THIS attractive body, specially designed by the Standard Auto Body Co., and mounted on a GMC Model T75 with chassis specially lengthened for the job, is operated in oil well service by the Lane-Wells Co., Oklahoma City. Body is equipped with Lane-Wells' special well perforating machinery. Hand rails, step plates, bumpers and windshield are chromium plated.

TWO hundred cases in this Mack truck, Yo-Ho-Ho and a bottle of beer! It's a Model AB operated by the Schaefer Trucking Service, contract hauler for "Jake Ruppert" (owner of the New York Yankees and the man who paid Babe Ruth \$80,000 smackers for swinging a bat). This truck plays the New York metropolitan circuit delivering Ruppert's bottled "Knickerbocker" and "Ruppiner" brews—200 cases at a time. Doors in side and rear facilitate loading.

THIS "Poultry Pullman" is operated by the Farm Poultry and Egg Co., Miami. Trailer is Model TO-20 Trailmobile pulled by a Reo Model I-B tractor equipped with an overhead sleeper cab. The front end of the trailer is insulated with Dry-Zero insulation, and is refrigerated mechanically by a Frick unit. It carries 100 cases of eggs under refrigeration and 60 coops of 80-lb. live chicken capacity each. Chickens ride on the observation platform in the rear!



"BEER" with us awhile (we won't blame you if you "bock" at such puns) and we will tell you the story of how Tivoli brewed a formula for delivering brews economically that will make the best Chef de Fleets froth with envy. Tivoli's prize recipe for slick operation and low maintenance cost, good for other operations, too, is simple in fundamentals but requires study for perfection. But once accomplished (as in the case of the gentleman drinking the beer) it satisfies. Here are the details—take them in short draughts, and smack your lips as you go along.

THE Tivoli Brewing Co. of Detroit, which operates a fleet of 40 motor trucks, trucks beer to hot and thirsty souls at a very low cost with a system of rapid deliveries, thanks to a well organized service and operating department, which at all times is carefully supervised by Fleet Superintendent Harold J. Doyle, and to standardization of equipment.

How economical is it to maintain this delivery system? Although most of the trucks in this fleet have seen considerable service, some of them employed in long-distance transport approaching the 100,000-figure for miles traveled, the bill for truck repair parts for December, 1934, was only \$30.27 and for January, 1935, only \$31.50. These parts were replacements from the trucks' manufacturer only. Again, each of two 3-ton trucks in long distance service, which regularly pull semi-trailers, and which had traveled respectively 81,000 miles and 85,687 miles, had new pistons and piston rings installed once, valves ground three times and brakes relined once.

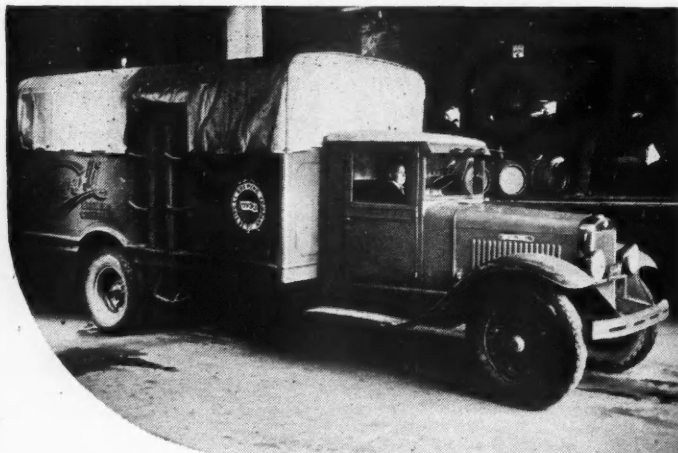
The Tivoli company was confronted with specific transportation problems,

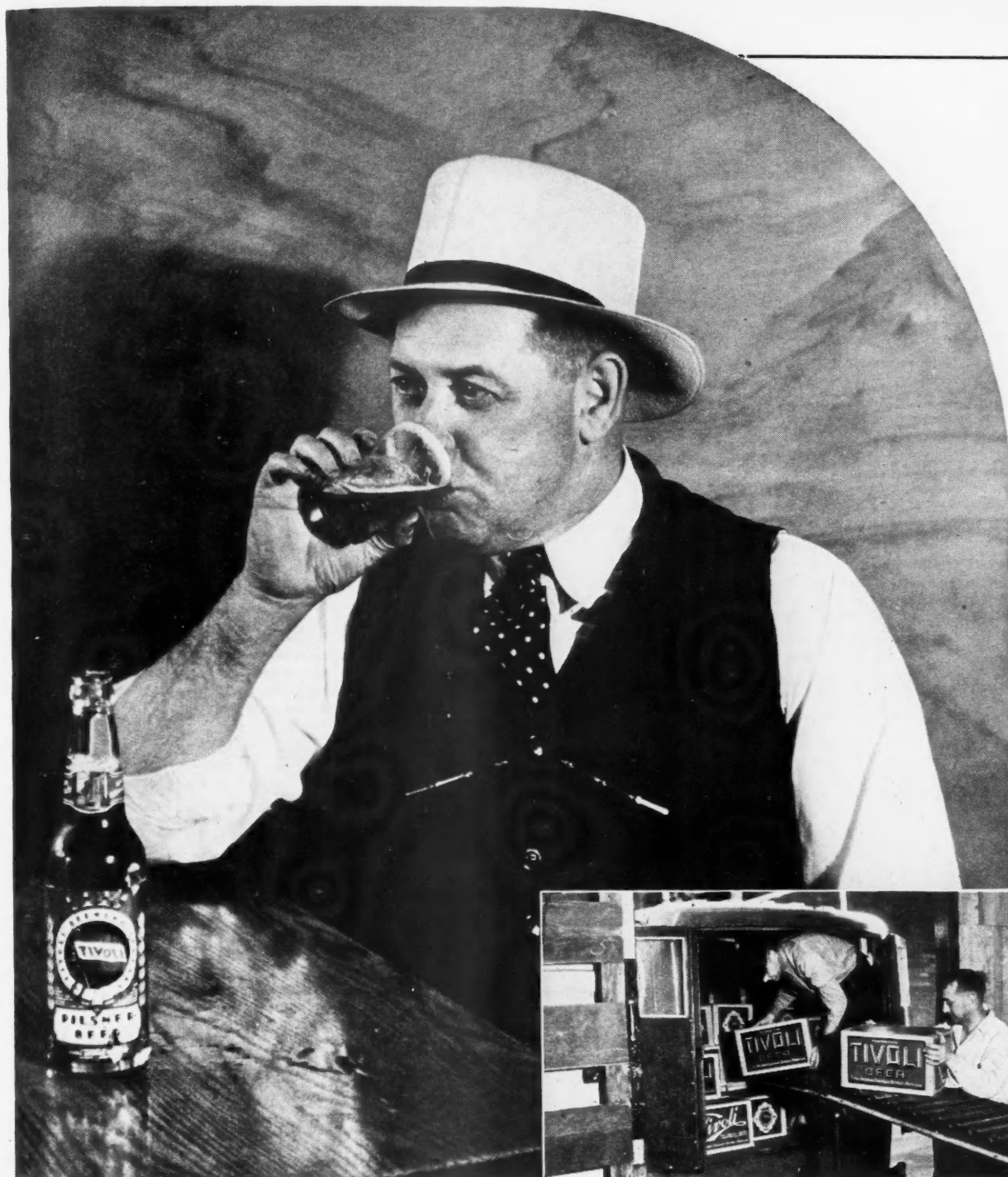
OPERATING A BREWERY FLEET IS JUST **Beer and Skittles** IF YOU KNOW HOW TO SCUTTLE COSTS

Tivoli Blows the Foam of Inefficiency Off Operation by Posting Maintenance Costs of Trucks to Get Driver-Salesman Cooperation

in organizing its motor truck fleet. The problem was overcome and economical transportation obtained by standardization of equipment. Two types of beer, draught and bottled, are delivered in the metropolitan area of Detroit. For the delivery of bottled beer in this area, use is made of 17 2-ton trucks equipped with all-steel enclosed bodies, each of which is 12 ft. long, 6 ft. 2 in. wide, and 4 ft. high, and has a sliding door on each side. To deliver draught beer, six 3-ton trucks are utilized and are equipped with panel-stake bodies which are 14 ft. long and are covered with tarpaulins. Three small $\frac{3}{4}$ -ton and a $1\frac{1}{2}$ -ton truck are also employed for special-delivery service. Then there are two older type 3-ton and four 5-ton units that are used mainly for hauling supplies.

Since the Tivoli company maintains 16 branches in various cities in Michigan and Ohio, it was also faced with the problem of delivering its product to these branches. This is done with six tractor trucks and trailers, which include the two 3-ton trucks with semi-trailers that are approaching the 100,000 mileage figure already mentioned and four more recently purchased $3\frac{1}{2}$ -ton tractor trucks each of which pulls a semi-trailer and a four-wheel trailer. Each of these latter-named outfits make up a train 50 ft. long, the front semi-trailer being 19 ft. long and the rear four-wheel trailer 16 ft. The overall width of each is 8 ft. and the height from ground 11 ft. 6 in. The two trailers have a capacity of 1100 cases or 48,000 lbs. All trailers have sliding doors on each side and double doors





Far left—3-ton Internationals with 14-ft. stake bodies are used to deliver draught beer while bottled beer is trucked in 2-ton units (left) equipped with all-steel bodies

in the rear. The longest trip is made to Traverse City which is some 300 miles away. All long-distance hauling is done at night.

The type of drivers employed by Tivoli contribute enormously to successful operation.

Each driver in the Detroit area is designated as a salesman and is provided with a helper, who, if he shows sales ability, has a pleasing personality

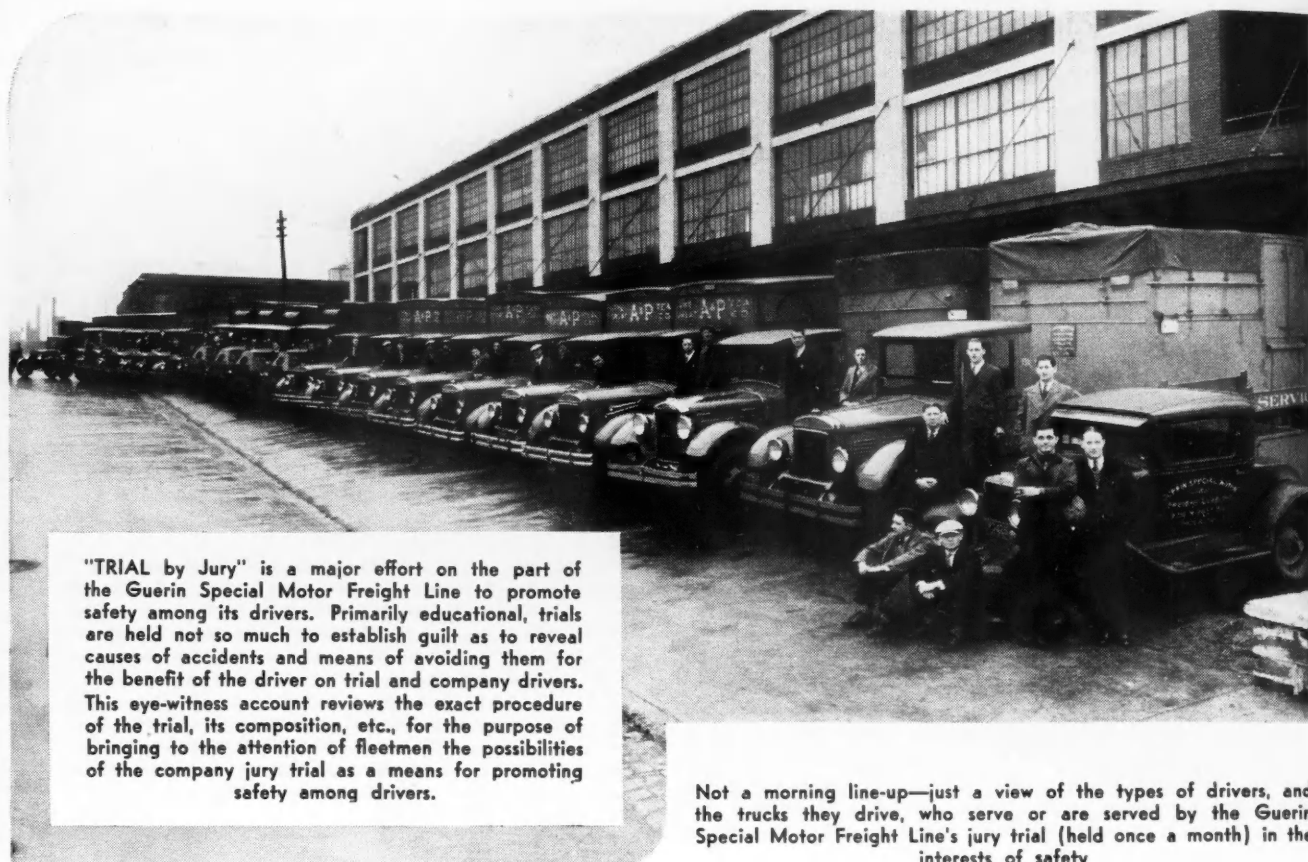
and is careful of his appearance, eventually also becomes a salesman. Usually the supervisor chooses the helper in the case of a vacancy. These men work 40 hours per week or five eight-hour days. On the regular driver's day off the helper gets the opportunity to display his sales ability. Some helpers have been so successful that the peak day on a particular route is when the regular driver has his day off. Each crew makes an average of 60 stops and travels about 30 miles a day.

Both driver-salesmen and their help-

A special delivery truck being loaded with bottle beer to quench the thirst of ye man above. Standardized equipment (trucks by International) do the trick of fast delivery

ers are paid on a salary and commission basis and since both share the commission the tendency is for each to check on the other and prod him on to greater effort and to be courteous and careful in his treatment of customers. A driver's average earning, including his commission, is \$50 to \$60 a week. The helper's average earning is \$35 to \$40 per week, including

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"TRIAL by Jury" is a major effort on the part of the Guerin Special Motor Freight Line to promote safety among its drivers. Primarily educational, trials are held not so much to establish guilt as to reveal causes of accidents and means of avoiding them for the benefit of the driver on trial and company drivers. This eye-witness account reviews the exact procedure of the trial, its composition, etc., for the purpose of bringing to the attention of fleetmen the possibilities of the company jury trial as a means for promoting safety among drivers.

Not a morning line-up—just a view of the types of drivers, and the trucks they drive, who serve or are served by the Guerin Special Motor Freight Line's jury trial (held once a month) in the interests of safety

Trial by Jury in

"WELL, I guess that puts me on trial."

The "trial" referred to was the monthly trial by jury of drivers who have had accidents, held by the Guerin Special Motor Freight Line, Philadelphia. And the reason for this truck driver's fatalistic remark was the unscheduled stop the driver's truck had just made with its nose nestling quietly, if a bit rumpled, under the rear of a stalled truck. The nose of the truck got into its awkward and embarrassing position (to the driver) quite involuntarily. It was a case of three trucks on an icy hill. The first one got over all right. The second went into a skid and brought up against the curb. And the third truck, with which we are concerned, slid off the high, icy crown of the road just as it was passing the stalled truck and brought up with its front end in the unnatural position already stated.

The driver's prophesy about going "on trial" was well founded. With three other accidents already on the Guerin company's court docket, trial

Giving You an Eye-Witness Account of the Way Operators Are Using the Jury System to Fix Accident Responsibility and Administer Justice

By STANLEY GERSTIN

was called for the last Saturday of the month. Having heard of the Guerin trials, this writer attended as an observer, to learn exactly how a trial of accident drivers is conducted and to note the effect on drivers and the benefits gained by such a trial as part of an operator's program to promote safety.

AS explained by John Paul, general manager of the Guerin company, the purpose of the court is to review all accidents experienced by Guerin drivers, to weigh the evidence against com-

pany safe driving rules and determine whether or not the driver is guilty of an infraction of one or more of the company's rules.

Determination of the guilt, however, is not the major purpose of the trial of a driver by a company jury. The trial is primarily educational. The accident is reenacted in court, every element and angle of the incident is discussed, and possible means of avoiding such an accident are pursued for the benefit of the driver on trial and the company drivers attending the trial.

Court was convened at 10.30 in the



Court scene. The judge, General Manager John Paul, presides (right) flanked by company lawyer. Jury sits opposite, with the driver on trial seated at the traffic table in the space between judge and jury. Insert—accidents are reenacted on this traffic board

a Court of Safety

morning, and consisted of six men. They were Fleetman Paul, as the company representative, accompanied by the company lawyer, and a jury of five men consisting of the shop foreman and warehouse foreman and three drivers selected for their driving records. Among the spectators were company drivers, police officials, the insurance agent and representatives of other trucking companies also present to observe the procedure and effect of the trial by jury in promoting safety among drivers.

THE jury (of five good men and true) sat opposite John Paul who serves as the judge, and the first driver to go on trial sat at a table in the space between. On the table top was a diagram of street intersections on which drivers reenacted the accident, using miniature trucks.

Court was called to order and the judge addressed the jury: "Since the majority of the jury today are serving for the first time, an explanation of the workings, purposes and procedure of

our court is in order. I might say that at no time do we expect that our procedure here will conform to the laws of the state nor is there any need that it should so conform. What we practice here is governed by our safety manual containing rules and regulations which our drivers are required to obey. And in case of an accident it is up to you, the jury, to determine whether or not these rules have been violated, and to take into consideration the driver's viewpoint and the mechanical foreman's angle in arriving at a decision."

At the conclusion of the address to the jury, the driver whose truck did the skidding act on the icy road was told to demonstrate on the traffic board for the jury just how the accident occurred. The jury watched attentively as the driver manipulated the toy models and explained the movements. He ended with, "Then my front end began slippin' right under his tail—and that's how it happened."

At this point the judge questioned the driver in an effort to bring to light

every element that might possibly have contributed to the accident. Questions were designed to reveal how many hours the driver had been driving prior to the accident, whether or not he was tired, the condition of the road throughout the entire trip, the driver's reactions when he stopped and debated with the drivers of the two other trucks about the feasibility of continuing over the icy hill, how he felt about continuing when he saw the truck ahead stall, his speed, condition of his chains, front tire treads, etc. When the judge had satisfied himself, the questioning was continued by the jury.

THE shop foreman on the jury started with a barrage of questions on the mechanical condition of the truck. The driver parried and answered. Sometimes he sulked. Sometimes he was emphatic and unhesitating in his answers. When he said that his front brakes were not holding satisfactorily, the shop foreman turned to his maintenance records which he had with him to determine when the brakes

TRIAL BY JURY IN A COURT OF SAFETY

were last adjusted and whether or not a report on their condition had been turned in recently. Pertinent, probing questions were also asked by the other members of the jury. When they had finished, the company's attorney summed up the case on the actual testimony and reviewed the high-lights of the accident for the benefit of the jury, driver and spectators, and to bring out on the driver's own admission, whether or not he thought he had done the right thing at the right time and what he thought he would do in a similar situation.

After a period of intensive questioning and analysis the judge charged the jury:

"It is the company's opinion that this accident in which our driver was involved warranted this inquiry and trial testing whether the said driver has or has not committed an infraction of the Guerin code of safe driving. If, after weighing the testimony, you find that he has committed an infraction of the company rule or rules, I charge you to render a decision in writing finding the driver guilty of such violation only of rule or rules of the Safety Manual or policies of the company as the testimony or facts warrant, naming the specific violation or giving the number of the violation. If testimony revealed such facts as led you to believe that the driver is innocent of an infraction of company safe driving rules then you are to render the decision in writing and find the driver not guilty."

RULES in the Guerin code of safe driving are:

1. A Guerin driver has no right of way; therefore an accident involving right of way at an intersection is due to either contributory or outright negligence.

2. A Guerin driver must at all times obey the motor vehicle laws of the state through which he is driving; in addition, we expect a Guerin driver to follow another car at a speed regulated to road-surface conditions, and even anticipate poor judgment on the part of the driver ahead. Therefore the following excuses will not be accepted:

(a) Ignorance of the State's motor vehicle laws.

(b) Sudden stops, or stops without warning of the vehicle ahead.

3. A Guerin driver in passing another vehicle shall be expected to use proper judgment as to regulation of speed and distance at the time of overtaking.

4. A Guerin driver when making a left hand turn is traveling against natural flow of traffic and if hit in front or side shall be charged with contributory or outright negligence, unless the court, after considering the evidence shall decide otherwise.

5. A Guerin driver has the right to refuse to drive any equipment determined as unsafe for operation. Therefore the following excuse will not be accepted:

(a) Poor brakes—brakes didn't hold.

THERE are also certain company policies against which evidence is weighed. They are such rules as—no driver shall permit his helper to drive his truck. If an accident results with the helper at the wheel, the authorized driver of the truck shall be tried by jury as though he himself were at the wheel; also, when road conditions make safe driving a question of doubt in the mind of the driver, he is to phone the home office for specific instructions, etc.

The court, sitting in continuous session, heard all four cases on its docket. In each the procedure was the same. After the last trial the jury retired to the manager's office to discuss the testimony and arrive at a decision. The remainder of the court remained in session while the jury deliberated. In one instance the jury reappeared and asked the judge for his interpretation of a certain company policy. Again it asked for a dictionary. Shortly the jury filed in and the ballots were passed to the judge who then adjourned court with the announcement that the jury's decision would be given the next day.

The reason for not announcing the decision immediately was a bid for time to weigh the decision against the insurance agents' report as well as to give the company time in which to assure itself that a fair decision had been arrived at by the jury. Decisions are announced in form letters mailed the day following the trial. There are several reasons for making the decision known in this manner. For one reason, it is done in the hope that the wife of the driver will see it as soon as the driver and will, therefore, be acquainted with the decision immediately. It is also an attempt to forestall any attempt on the part of the driver to improvise an exaggerated story (in his favor, of course) of how the accident happened and who was to blame, in event a decision against him was given immediately.

The order of composition of the court never varies. John Paul always presides as judge. The shop and warehouse foremen always serve as permanent members of the jury and three different drivers are selected from among those employed to serve on each new jury. Drivers scheduled to work are required to serve, nevertheless, but are paid for doing so on the same scale as when driving.

Trial procedure described here is by no means final. Changes are made whenever it is thought such changes will increase the value of the trial. Shortly after this trial, Fleetman Paul announced that, hereafter, in his charge to the jury, he would name the specific company rule on which the driver is being tried. Under this change the judge will charge the jury that if testimony heard shows that the driver violated rule No. 4, he is to be adjudged guilty, if not, he is to be acquitted. The jury will no longer be obliged to determine for itself which of the rules the driver may or may not have violated.

A second announced change in trial procedure will be that of hearing the helper (heretofore never tried) before the driver takes the witness chair. It is the company's thought that a helper may sometimes give a totally different and more valuable story about the accident than the driver himself.

General Manager Paul is of the opinion that drivers will accept a verdict of guilty at a trial, and take their "medicine" like men, whereas they might be less agreeable if they were curtly given a day off without pay after turning in to the management a report of an accident. The "trial" is more in accordance with their ideas of what is fair.

"TRIAL by jury" is not where the company's safety efforts begin. The trial establishes guilt, causes of accidents and develops possible preventive method but safety really begins when the men are hired as helpers. Before a man is hired, he is given a personal interview. His application is checked thoroughly. John Paul visits the neighborhood in which the driver lives to get a line on his reputation from the grocer, butcher and the corner store. His driving record is investigated and his own stories of past accidents are checked. His habits, living conditions, sobriety and past employment are checked. If he passes this investigation to the management's satisfaction, he is hired and put through various channels

(TURN TO PAGE 46, PLEASE)



The truck body panels are easily removed for enameling

A GLASS covered body for wholesale bread delivery—sanitary, always good-looking and economical to maintain! We have often seen porcelain enamel signs used on trucks, but as far as we know this is the first time the complete outside of the truck has been finished in panels of this material. The only outside areas of our last five trucks which are not porcelain enamel are the roof, fenders, hood, cowl and front door panels. As we accumulate more experience it is possible that all, or nearly all, of these areas will be finished with this modern glass surface.

What is "porcelain enamel"? It is just the same material as the china cups and plates you use at your table daily, only it is fused on sheet metal. It is identical with 90 per cent of the bath tubs in use, only the metal of the bath tub is thicker and heavier. And, as you no doubt know, the dishes and bath tub are really glass, opaque glass, it is true, but glass just the same.

The procedure we follow is this: Our body builder (Wm. B. Gibson Co., San Francisco) fits the sheet metal panels (18 gauge) over plywood panels in the same manner as usual. They are "broke" around the metal door pillars and are drilled for metal screws on their four edges. Instead of fastening these panels on, they are then removed and sent to the Ferro Enameling Co. of Oakland, Cal. Here the porcelain enamel is sprayed on in a number of thin coats. Each coat is

A NEW FINISH FOR TRUCK BODIES THAT IS ATTRACTIVE AND ECONOMICAL—IT'S Porcelain Enamel

Western Operator Displays Originality in Truck Finishing With "China-Ware" Enamel Job Which He Proves is Both Chic and Cheap

By FRED H. CHESNUT

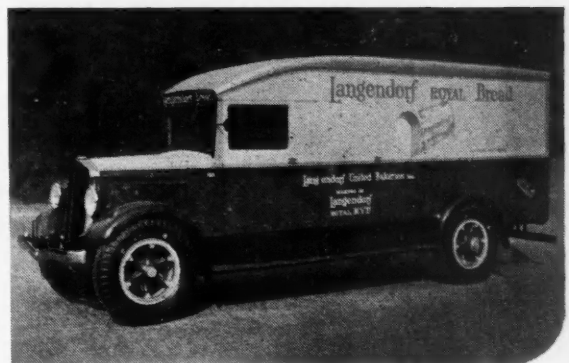
General Superintendent of Transportation,
Langendorff United Bakeries, Inc., San Francisco, Cal.

fired by exposure to a furnace heat of 1700 deg. fahr. for at least five minutes. The ground coat of the color desired is first built up and then the lettering is "shot," using zinc stencils. The letter-

ing is porcelain enamel and is fused in and becomes an integral part of the surface. Ceramic transfers (decals) are obtainable which may be fired on,

(TURN TO PAGE 48, PLEASE)

A Langendorff truck with porcelain finished body—an economical and attractive finish



By **GLENN W. SCHREIBER**, Garage Superintendent, Smith Bakery Co., Kansas City, Mo.



Fleetman Schreiber inspects the daily report chart which gives him a complete picture of the condition of any one or all of his trucks



A complete inspection every 10,000 miles of our 53 delivery trucks, and constant vigilance in keeping an accurate check on batteries, tires, lubrications, and oil changes and reclaiming, have resulted in 25 per cent lower operating costs for our fleet.

Perhaps the success of this system is most graphically illustrated by the fact that while several of these trucks have been driven 700,000 miles their expense of operation is today no greater than it was when their speedometers had not yet turned over the first 100,000 miles.

To the complete inspection at 10,000 miles is due the greatest reduction in

operating expense. Since this means that every truck is thoroughly gone over regularly, oil pumping, excess carbon, warped or pitted valves, and worn pistons, rings, or cylinder walls are checked before they become a serious item.

A gasoline saving is also effected, as inspection periods usually come around

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Super-Inspection Every 10,000 Miles Sliced Our Costs

**Our Complete Inspection Procedure, Declares
Garage Superintendent Schreiber, Has Helped
Us Cut Fleet Operating Costs by 25 Per Cent**

in the spring and fall, making it possible to change and adjust carburetor jets. At such times it is also convenient to make the seasonal change-over on oil, transmission and differential grease without interrupting truck schedules.

Interrupted schedules would be the

result if we attempted to make these changes on all the trucks at one time. But we maintain five trucks to substitute for those undergoing regular inspections so that delivery schedules are carried out uninterrupted. This also eliminates any need for hurried or slapdash work by the mechanics.

How good is your inspection system when measured by the length of service your trucks give?

Good for 700,000 miles—and more. That is Fleetman Schreiber's answer. And here he steps forward with facts concerning his 10,000 mile super-inspection plan that not only cuts his operating costs but extends the life of his trucks. These super-inspections involve complete overhauls, from tightening body bolts to cylinder reconditioning, and are augmented, of course, by daily "inspectionettes" conducted by men whose job it is to do nothing else but. A comprehensive inspection chart sees to it that nothing is missed. Here are details of the chart and inspection system—long on results and short on costs.

We have found that the close attention given front wheel bearings and steering mechanism both at the regular inspection periods and at the daily check up on tires, where we are especially on the lookout for front tire wear, has resulted in the elimination of road failure and accidents attributable to these causes.

Before inaugurating the inspection, and a daily check up of tires, we had eight accidents in two years from steering mechanism failures while trucks were being driven on the road. Investigation of these accidents showed that in each case the steering mechanism had been subjected to excessive strain due to front wheel bearings being out of adjustment. And since we have had no such accidents since eliminating this cause we feel correct in attributing them to it.

At the regular inspection periods a very careful check is made of gas lines, filters, carburetor and ignition parts. This, plus the immediate attention

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SUPER-INSPECTION EVERY 10,000 MILES SLICED COSTS

and top deck checked for leaks and wear. If paint has given away in places, this calls for repainting the truck.

We keep a permanent card file of all major repairs, replacements and adjustments made at each inspection. A card for each truck shows date and speedometer mileage, and is filed by truck and route number. From this, the truck and route number are entered into a shop foreman's book, and 10,000 is added to the mileage reading, so that he can ascertain readily when that particular truck is due in the shop again by consulting the daily mileage record chart.

Included in the complete inspection is, of course, carbon removal, clutch pedal clearance adjustment, brake relining when necessary, and valve grinding. We have recently been installing alloy steel valve inserts, and have our own equipment for cutting the block, forcing in the insert, and refacing and grinding the old valves to fit the new seats.

WE have settled on a definite order of operation in regard to rings, pistons, and cylinder walls, that adequately meets efficiency requirements and reduces costs to a minimum. At the fourth or fifth complete inspection new rings are required; and if necessary main and connecting rod bearings are adjusted.

When it becomes evident that new rings will no longer hold the compression the cylinders are reconditioned with a boring bar process, and over-size pistons and rings installed. We allow three such reconditionings of a cylinder block with concomitant increases in piston and ring sizes. By that time we find it necessary to install sleeves if we wish to continue to use the same block.

Alloy steel sleeves the size of the original bore are installed along with standard size pistons and rings. The same process is repeated on the new sleeves that was used on the original cylinder walls at the 40 to 50 thousand mile periods. Some of our trucks that have covered 500 to 700 thousand miles are operating at very nearly their original efficiency with their second and third sets of cylinder sleeves which have undergone their second and third regrounding.

EACH driver-salesman carries a pad of daily report forms for listing necessary repairs to his machine. To keep track of the condition of the truck

These reports listing necessary repairs are turned in daily by drivers. The foreman's report listing parts and labor is stamped on the back after the work is done

every day one of these forms has to be turned in daily whether repairs are required or not. If no repairs are necessary, the driver fills in the date, truck and route number, writes "O.K." across the sheet, and signs it.

On the back of this sheet is the foreman's report form listing materials used and labor. Labor time is stamped on the report, using a time clock. These reports go to the auditing department every day.

One of the best means we have found for getting work done rapidly and reducing alibis is to have one man specialize on a particular type of job.

Thus, one man does nothing but handle oil and filter changes and lubrication. Another checks tires daily, and another batteries. As periods for checking the former are not fixed as in the case of tires and batteries, I worked out a simple system for assuring oil and filter changes and grease jobs being done at the proper periods.

THE system costs nothing to install as it consists merely of an ordinary blackboard ruled off for six vertical columns and a horizontal line for each truck. The blackboard is fastened to the wall where hangs my daily fleet report for mileage, oil and gas. The route and truck numbers are chalked in the first two columns, and are permanent entries. In the third, fourth and fifth columns the mileage in round thousands without ciphers is chalked for "filter cartridge change," "oil change," and "chassis lubrication" respectively. The sixth column is left open except on one night when the daily mileage chart shows that one of the trucks is due for one of the former

three operations. Whichever it happens to be, I chalk in for that truck "ch.," "gr." or "fil.," indicating to the shopman which of his three special jobs he is to give the truck.

For example, if oil had been changed and the truck lubricated at 25,000 miles, the figure "28" would be chalked in the "oil change" and "27" in the "grease" column opposite the proper route and truck number. Granting for the example, that the oil filter cartridge had also been changed at this time, "30" would be entered in the "filter cartridge" column. These are changed at every 5000 miles, oil at every 3000 miles, and greasing is done at every 2000 miles. Adding five, three, or two to the 25 gives the figures to be chalked on the board.

When my daily report chart shows the speedometer reading on this truck at approximately 27,000 miles, I chalk "gr." in the sixth column; at 28 "ch.," and at 30 thousand "fil."

Thus, when the lubrication man comes on each night he has only to look over the board to have his job blocked out for him, the sixth column giving him all the filter and oil change and grease jobs he has to do.

WHEN he has finished his work he erases the abbreviations one by one in the sixth column, increasing by five, three, or two the figure in the column given to the type of job he did on each truck so that the next day I know the work was all done if the sixth column is completely erased and the figures are ready to be compared with daily mileage chart for the next period.

What we have found to be the best way of increasing tire mileage is to have one man devote all his time to checking every tire on every truck daily. In fact, since we started this plan we have come to expect 30 to 40 thousand miles from a tire; and we are seldom disappointed. The chief thing to watch is the maintenance of air pressure to prevent side walls breaking down and front wheel misalignment. Making as many stops as bakery delivery trucks have to make, our men frequently bump curbs. This has a tendency when repeated day after day to quickly get front wheels out of line. And poor alignment is about the fastest way possible to wear out a tire.

We have a special battery man to go over all batteries twice a month.

We have effected a material saving in oil costs through reclaiming. Reclaiming returns to us an unusually good quality of oil.

BY H. R. BARNETT.

Special Investigator, Commercial Car Journal



Evil Effects of Evil Regulation

HOW IT AFFECTS SERVICE INDUSTRIES

Administration of Regulation in Pennsylvania Ties-Up Common Carrier Operation to Detriment of Service Industries and Rural Development

THE manifold service and maintenance trades that are necessary to our mechanized existence are as interested in the question of transportation as the merchant, the storekeeper, the manufacturer, and the farmer.

An official of the Uniflow Manufacturing Co. of Erie was explaining this to me and he was emphatic on the connection this had with the development of rural regions and especially the near-country subdivisions around the larger towns. It is to such markets that the company sells its water tanks, septic tanks, pumping and lighting plants, refrigerating units, and water softeners. In the official's opinion the inadequacy of transportation in western Pennsylvania is definitely inimical to the growth of such communities away from the rails, because it is impossible to insure fast maintenance service, the trucking routes being so very restricted.

An illustration of the connection between service and sales is found in a little town called Adamsville, on the Bessemer & Lake Erie Railroad some 50 miles south of Erie. The town is remarkable for nothing except Mr. Andrews and his business. Mr. Andrews, with Adamsville as his center, has developed a business in farm equipment covering 34 counties and extending into four states. Mr. Andrews, in agreement with the Uniflow company's spokesman, says a sale must be backed with service. No service—or slow service—then no resale! The farmer can

make or break your list of prospects in his immediate neighborhood I learned. No matter if it is a tractor for the farmer, or an electric washer for his wife, Mr. Andrews says, it is becoming easier to sell to the man over the state line, in New York, Ohio, or down in Maryland, than to the farmer in the next Pennsylvania county. In interstate traffic, he points out, he has the use of numerous trucking lines, but in intrastate he is entirely dependent on the thrice weekly rail-freight service, taking days to deliver to the next town. In fact, to retain a customer's good-will it is often necessary to send a five-dollar tire 20 miles in his own truck! The Bessemer & Lake Erie Railroad has consistently contested truckers' applications to serve Adamsville.

A MAN whose knowledge of this maintenance question and of the importance of promptness is second to none, is Mr. Charles Seegar, who is responsible for the vertical transportation of nearly all northern Pennsylvania. He is the representative of the Otis Elevator Co. in Erie. It is, he says, very unlucky to leave an elevator full of people suspended between the 13th and 14th floors of a building for three days while rail-

ing spare parts and equipment to the rescue from a point 50 miles away! Mr. Seegar speaks from experience!

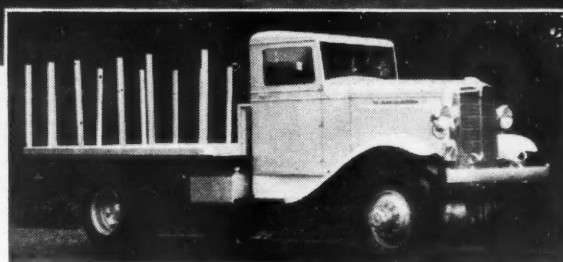
At one time the Otis Elevator Co. maintained more than \$20,000 worth of spare parts in Erie, but today \$20 would cover the value of spares Mr. Seegar keeps on hand. The company, a few years ago, found it possible to give much faster service by interstate truck from Buffalo to any part of Mr. Seegar's wide territory than to serve it by rail from Erie or Pittsburgh. A telephone call to Buffalo will put within an hour the required parts on their way. A call to one of several strategically located mechanics and a man is also en route to the job in a company car equipped with tools. This move on the part of the Otis Elevator Co. not only illustrates the importance of speed to maintenance services, but further emphasizes the manner in which branch offices and warehouses of numerous companies are curtailed in Pennsylvania, while the territory is catered to by others in an adjacent state.

Even the Pittsburgh Plate Glass Co. finds it much easier to serve a great part of Pennsylvania, including many points within a few miles of Pittsburgh

(TURN TO PAGE 94, PLEASE)



Above—M-H Model 350-4 four-wheel-drive negotiates a difficult run



Left—Model 370-4 four-wheel-drive has 25,200 lb. gross capacity

21 Models in New M-H Line

A NEW and complete line of four and six-wheel-drive motor trucks, ranging in gross capacity from 8,400 to 52,000 lb., is announced by the Marmon-Herrington Co., Inc., Indianapolis.

The initial announcement of the line includes 21 models. Thirteen of these models are four-wheel-drive vehicles, 10 with gasoline engines and three with diesel engines. The remaining eight models are six-wheel-drive units and of these eight, five have gasoline engines and three diesel engines. The four-wheel-drive models range in gross capacity from 8,400 to 31,200 lb. and the six-wheel-drive models from 26,500 to 52,000 lb.

Each model is engineered so that it can be manufactured in two or more wheelbase lengths and equipped with tires of two or more sizes. Thus, an almost unlimited number of units is available—each fitting a definite purpose by giving the right combination of size, weight and carrying capacity for the job for which it is intended.

THROUGHOUT the entire line, both engine size and power have been increased. The diesel engines which are

Three Four-Wheel Drives and Five Six-Wheel Drives Have Diesels; Gross Capacity is from 8,400 to 52,000

available on numerous models are of the latest type and have established outstanding records in performance and economy. Many refinements have been made in the chassis. The Marmon-Herrington front-axle construction has been further improved in efficiency and simplicity.

One of the outstanding features of the new line is the low center of gravity, lateral stability and all-around safety of all models. Frame heights have been lowered. Dual rear wheels are standard equipment, while auxiliary transmissions are built into all models—even the smaller sizes.

New radiator designs and a number of other improvements in exterior appearance have been made. Ease of handling and comfort for driver and passengers likewise have been given special attention.

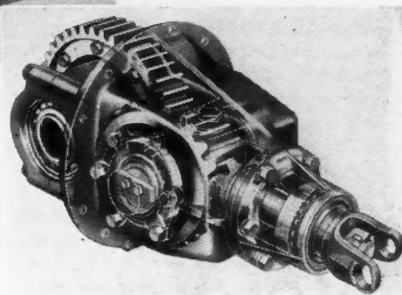
Standard models and gross capacities are: B10-4 (four-wheel-drive)—10,200 to 13,200 lb.; B20-4 (four-wheel-drive)—11,700 to 13,200 lb.; B30-4 (four-wheel-drive)—13,200 to 15,900 lb.; B40-4 (four-wheel-drive)—15,900 to 19,500 lb.; B50-4 (four-wheel-drive)—19,500 to 23,400 lb.; B60-4 (four-wheel-drive)—19,500 to 23,400 lb.; B70-4 (four-wheel-drive)—23,400 to 25,200 lb.; B80-4 (four-wheel-drive)—28,200 to 30,000 lb.; TH415-4 (four-wheel-drive)—28,200 to 30,000 lb.; TH420-4 (four-wheel-drive)—28,200 to 31,200 lb.; B40-6 (six-wheel-drive)—26,500 to 28,500 lb.; B70-6 (six-wheel-drive)—32,500 lb.; B80-6 (six-wheel-drive)—29,000 to 42,000 lb.; TH415-6 (six-wheel-drive)—39,000 to 42,000 lb.; TH420-6 (six-wheel-drive)—47,000 to 52,000 lb.; BD80-4 (four-wheel-drive, diesel)—28,200 to 30,000 lb.; THD415-4 (four-wheel-drive, diesel)—28,200 to 31,200 lb.; THD420-4 (four-wheel-drive, diesel)—28,200 to 31,200 lb.; BD80-6 (six-wheel-drive, diesel)—39,000 to 42,000 lb.; THD415-6 (six-wheel-drive, diesel)—39,000 to 42,000 lb.; THD420-6 (six-wheel-drive, diesel)—47,000 to 52,000 lb.

There is also a revision in prices.



Left—New 3-ton Dodge chassis and cab available in three wheelbase lengths.

Below—Double reduction axle is available



Dodge Has New 3-Ton Series

"Piston Ring" Grease Seal, 96 H.P. Engine, Hydraulic Brakes With Booster and Improved Cab Are Some Features; Prices Start at \$1695

DODGE Division, Chrysler Motors, introduces a new series of 3-ton trucks. This series comes in three wheelbases—152 in., 170 in. and 188 in. Chassis of special wheelbases, up to 205 in., are offered.

Radiators are slanting, and the driving compartment may be aired through an adjustable cowl ventilator. The tilted windshield is opened by means of a single crank. Cab seats are wide and comfortable and adjustable forward and back. The frame side rails, tied together by six cross members (five on the shorter wheelbase model), are 8 9/32 in. deep, 27/8 in. wide and 5/16 in. in thickness. The overall length of the longest chassis frame is 272 7/16 in.

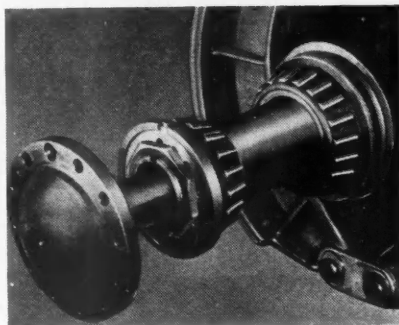
THE rear axle is full floating; its housing is of the welded steel square-tube type. The spiral bevel ring gear of the final drive is exceptionally large, 14 3/8 in. in diameter, with 2 3/16 in. face. A minimum of side play in the ring gear is assured by a special thrust screw. The drive pinion is straddle-mounted and supported in adjustable taper roller bearings. For the final drive the choice of three standard ratios is offered—7.4 to 1, 6.8 to 1, and

6.1666 to 1. A double-reduction unit, ratio 8.21, is also available.

An ingenious, yet simple arrangement preventing the leakage of lubricant from the rear axle wheel bearings is afforded by a step-cut grease-sealing ring similar to a piston ring. The ring is situated next to the larger diameter of the outer axle bearing and is compressed, like a piston ring, when it is made to enter the hub.

Axle shafts measure 1 11/16 in. at the center and 1.87 in. at the 16-spline end.

Front and rear springs are semi-elliptic, of carbon-molybdenum steel. The front springs have their shackles



"Piston ring" grease seal

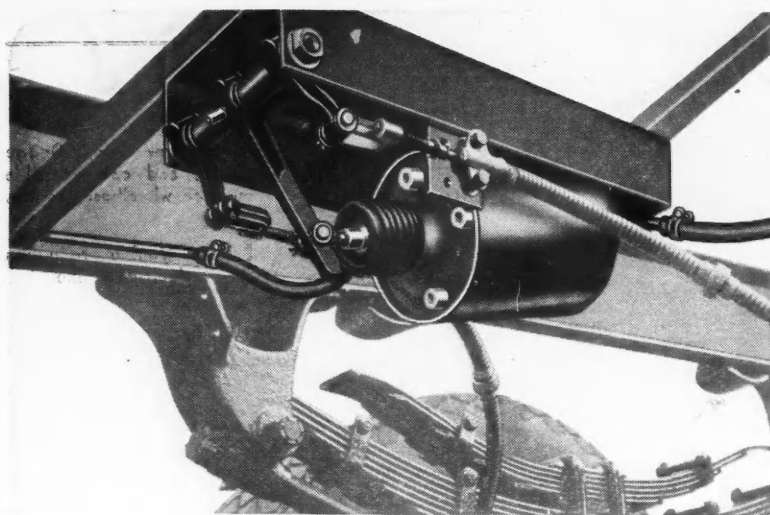
in front of the spring. The steering column is adjustable. The steering wheel is 18 in. in diameter.

The power plant is a high-efficiency 6-cylinder L-head engine of 3 5/8 in. bore by 5 in. stroke, having a piston displacement of 309.63 cu. in., an S.A.E. or license rating of 31.54 hp., and a torque of 200 lb. ft. at 1100 r.p.m. The maximum horsepower is 96. The cylinder block material is nickel chrome molybdenum iron, and the compression ratio is 4.7 to 1. The drop-forged crankshaft, which is 36 9/32 in. long and weighs 100 lb., has 12 counterweights, and turns in seven bearings, contact area of which is 96.9 sq. in.

THE engine pistons are of the steel-strut, slotted skirt type. The piston material is aluminum alloy. Compression is safeguarded by four compression and one oil control ring, all located above the piston pin. Oval-head exhaust valves of high nickel chrome tungsten alloy steel, seating on tool steel inserts, and flat-head inlet valves of chrome nickel steel are used. Connecting rods are of I-beam section, with thin-wall bearings of babbitt-lined steel at the big end.

Satisfactory cooling is assured by a 21 in. 4-blade fan driven by a double belt. A feature of the engine cooling system is a thermostatic water temperature control through which the water is by-passed and prevented from circulating through the radiator until it has reached the temperature of normal engine operation.

(TURN TO PAGE 62, PLEASE)



Vel-Vac power cylinder designed for trucks and trailers



Vel-Vac two-way control valve

Vel-Vacs for Trailers

TWO new Vel-Vac power cylinders are being made by the Vacuum Power Equipment Co., Detroit, Mich. They are the Models A and C, push or pull type. The new cylinders are of the standard piston-type design and operate on the direct-acting principle. They are offered primarily for use on trailers, although they are equally as effective on trucks or tractors where a direct-acting cylinder is required. The rating

of either cylinder on direct push or pull is 282 lb.

The cylinders have fixed mounting studs securely riveted to the cover and a felt seal and wiper. The gland seal is guaranteed to hold vacuum for the life of the cylinder. The specifications are: diameter 6 in., stroke $6\frac{1}{8}$ in., area 28.2 sq. in., length extended 18 in., pull 20 in., vacuum 282 lb., weight $10\frac{1}{2}$ lb.

The company is likewise offering two

new control valves. They are designated as the model V-25 for air-suspended cylinders and the V-26 for vacuum-suspended cylinders. Each weighs $1\frac{1}{2}$ lb. Their capacity covers the range from small power cylinders for passenger cars to a pair of the C cylinders with change or adjustment. They are designed for foot pedal operation and they mount easily on the pedal rod with either mechanical or box-type hydraulic brakes. The release area is nearly twice as great as the application area and the operation is positive with complete control of application at all times. The valve may be connected from single to double line without removing from the vehicle.

Bendix Vacuum Pump

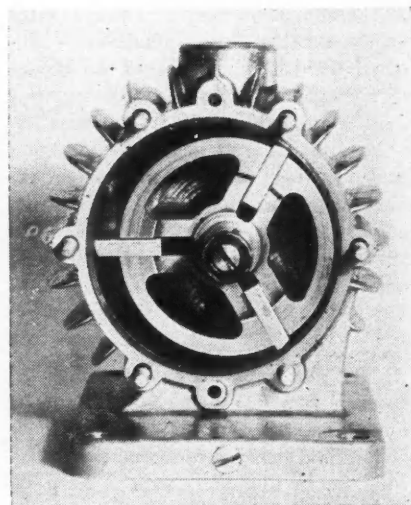
A VACUUM pump for use in connection with vacuum operated brakes is announced by the Bendix Products Corp., South Bend, Ind. The pump operates with full efficiency regardless of engine speeds.

It is designed to fit existing air compressor mountings and may be driven by a V belt, chain or through a flexible coupling. It weighs 8 lb. and is designed for continuous operation at 3000 r.p.m. At this speed it delivers 7 cu. ft. of air per minute. Its normal balancing point is 28.5 in. of vacuum which is considerably higher than the vacuum obtainable from the inlet manifold.

The pump consists essentially of a rotor with three sliding vanes operating in a housing eccentric with respect to the rotor. As each vane passes the

suction port the volume between it and the following vane increases continuously until it reaches the maximum value, at which point the following vane closes the suction port. During the remainder of the revolution the volume between the two vanes decreases and during this period it is in communication with the discharge port through which all of the air previously drawn in through the suction port is ejected. There are three such cycles per revolution.

Lubrication of the pump is effected from the pressure lubrication system of the engine. Oil under pressure is admitted to the base whence it flows through passages in the housing and the rear end plate to the rear bearing. The pump shaft is drilled and contains



Interior view of vacuum pump

three metering holes which register with the port in the bearing so that a limited supply of oil is directed to the bottom of each vane.

New Products on Parade

Descriptions of the Latest Items Put on the Truck Market by Equipment and Specialty Manufacturers

Fleetway "15" Tires

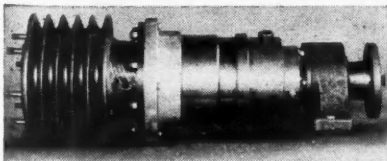
THE U. S. Royal Fleetway "15," a new type of low pressure tire which provides greater cushioning for light trucks, is announced by U. S. Rubber Products, Inc.

Special features of the new tire: it is designed to fit a 15 x 5.50-F standard rim, and on this rim it measures 7.60 in. in width. It has a 6-ply carcass designed for commercial service. A special tube of Royal quality, with air venting features and rubber valve stem, is being made for this new tire. The load carrying capacity is from 960 to 1400 lb. and corresponding inflation pressures are from 14 to 25 lbs., as compared with the 835 to 955 lb. carrying capacity of the 5.50-17 4-ply tire now used, with corresponding inflation pressure of from 28 to 32 lb. The Fleetway "15" offers 20 per cent more cushioning ability. It is easier on the load, the driver and itself; it brakes quickly and safely—resists any tendency to side-sway on curves and turns. The wide road contact area and the deep cog-wheel traction tread design make for longer wearing, non-skid safety. The large section and low pressure give far greater support to the vehicle when operating in mud, sand and snow.

Davey Power Take-Off

THE Davey Power Take-off, first employed in driving an air compressor mounted on truck chassis, by means of the truck motor itself, is equally adaptable for operating other kinds of truck-mounted machinery, such as pumps, portable generating plants for lighting systems and arc welders.

The Power Take-off operates from the truck drive shaft by a clutch and is controlled from the driver's cab. A pull of the lever engages the clutch, applying the full power of the truck motor to operation of compressor or other equipment, through

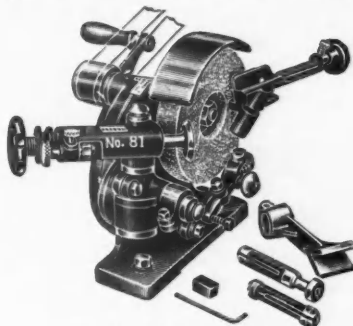


Davey power take-off

a sheave and V-belts. Weight is greatly reduced, and operations simplified, through elimination of a separate motor to operate compressor or other unit. It is made by the Davey Compressor Co., Inc., Kent, Ohio.

Rimac Valve Refacer

THE No. 81 valve face grinder made by Rinck-McIllwaine, New York, N. Y., takes all valve stems from 5/16 in. to 9/16 in. including the Ford A, B and V8. Takes 30 deg., 45 deg., and 60 deg. angle valves. It is hand operated—all gear driven and can be readily hooked up to

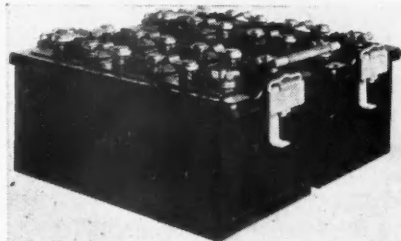


No. 81 valve face grinder

a motor drive. A double end split collet holds the valve firmly, making for extreme accuracy desired on the valve face.

Diesel Starting Batteries

TO provide adequate voltage characteristics for starting Diesel engines with the required high cranking speed, The



Diesel starting batteries

Electric Storage Battery Co., Phila., Pa., has developed a new line of batteries particularly designed for high currents up to 1600 amp. at low temperatures.

Considerable study has been given to the construction of these batteries to make them of maximum durability with minimum size and weight. Extra heavy flexible lead plated copper connectors are used between cells to eliminate possible breakage from vibration or expansion due to temperature. Likewise heavy duty genuine hard rubber monobloc containers are used to withstand hard usage.

Several types and sizes are available for various engine sizes from 25 to 600 hp. where the required voltage varies from 12 to 115 volts and the current from 300 to 1600 amp.

Muther Stopmeter

THE new Muther self-indicating Stopmeter is an accurate, full-jeweled, non-corrosive, dust-proof instrument that contains only metallic parts. The instrument is used to show brake effectiveness of automotive vehicles. It indicates automatically the number of feet in which a car can be stopped from a speed of 20 miles per hour. It does not have to be watched.

The base has a large handle for carrying. It has three feet so that it will set firmly on the floor. The thumbscrew on the right permits quick easy leveling. Net weight 38 oz. The net price is \$40 from the Muther Mfg. Co., 44 Binford St., Boston, Mass.

Bumper Lift Jack

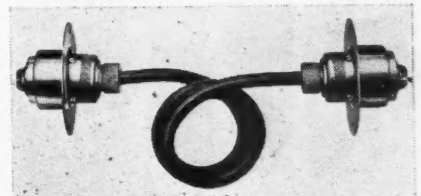
A BUMPER lift hydraulic jack that hooks under the bumper arm of streamlined, knee action cars has been announced by the Hein-Werner Motor Parts Corp., Waukesha, Wis. Even a youngster can position this jack and raise car in less than one minute, and lower and remove in less than five seconds.

One finger pull on ring raises toe of swivel top to the load. A few easy strokes, and wheel clears road or floor. The rated capacity of this jack is 3000 lbs. Additional details will be supplied on request by the manufacturer.

Electrical Connectors

SPECIAL electrical connectors for use between trucks and trailers (for lighting and electrical brakes) are announced by The Pyle-National Co., 1334 North Kostner Ave., Chicago, Ill.

The improved receptacles are flush type for mounting in standard 4-in. octagon sheet metal outlet boxes. The receptacles are flush with the outside of the truck cab or trailer body, and mounting in



Electrical connectors for trucks

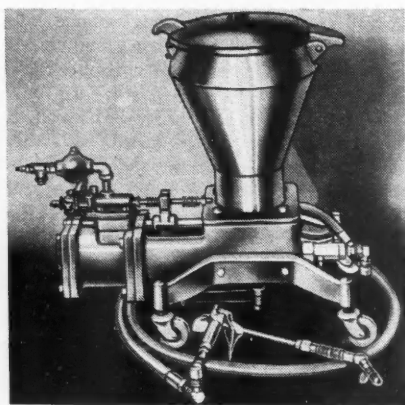
standard outlet boxes makes installation simple and economical.

Both plugs and receptacles have bakelite insulation, renewable contacts, and heavy steel shells, cadmium plated. Plugs and receptacles, rated at 20 amperes, are given in Bulletin 189 and supplements.

NEW PRODUCTS ON PARADE

Rock-Crusher

A NEW piece of equipment designed by the Alemite Corp., particularly to weather the most rigorous demands of truck lubrication, is the HR-25 25 lb. air-operated Powergun appropriately called the "Rock Crusher." At high pressures it easily pumps extremely fibrous and heavy lubricants. A thoroughly dependable double action air motor operates a large worm which forces the lubricant to the high pressure piston; the lubricant is then quickly delivered to the largest bearings at the rate of 12 to 18 oz. per minute, utilizing the 150 to 200 lb. of air pressure. It comes complete with 10 ft. of volume

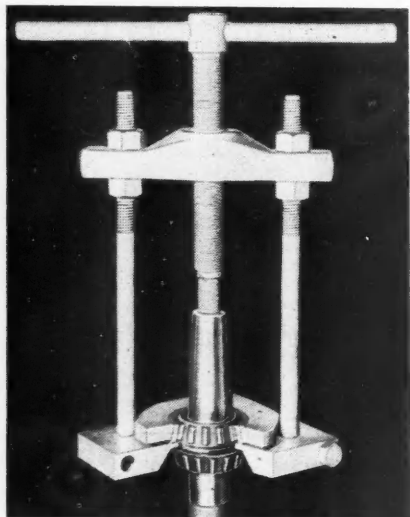


High-pressure lubricator

high pressure hose, four casters, a one-hand control valve for Push Type and Hydraulic fittings, and a Pin Type adapter.

Bearing Puller

THIS tool made by the Curtiss and Smith Mfg. Corp., Pottstown, Pa., will remove anti-friction bearings from shafts, etc., without a single hammer blow and without damage to the bearing or danger

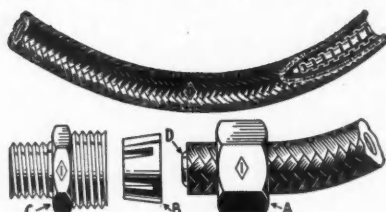


Curtiss-Smith bearing puller

to the mechanic. It can be used to remove gears, bushings and other items of similar nature. It can be used in an arbor press.

Flexible Tubing

THE Imperial Brass Mfg. Co., Chicago, Ill., is supplying flexible tubing for gas, oil and air lines in coils from which



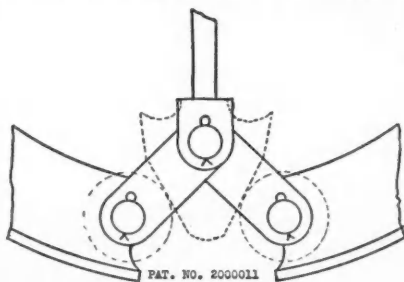
Flexible tubing for oil, gas lines

pieces of any length can be cut and assembled with special couplings to make a complete gas, oil or air line within a few minutes. Heretofore this tubing has been furnished only in cut lengths and the exact length had to be ordered.

The tubing is gas, oil, air, heat and cold proof. It is thoroughly flexible and cannot swell or leak shut. It is made of interlocking brass core fused to a compound covering with a braided fabric on the outside. The fabric is oil proof.

Boost-A-Brake for Fords

BOOST-A-BRAKE is a toggle designed to replace the operating wedge and rollers of Ford front brakes. It allows the shoes to float on the backing plate rest, thus becoming self centering and of the servo-action type. Through the action of the toggle, which increases the applied



Toggle for Ford Brakes

pedal pressure four times, and the servo action of the brake shoes, the pedal pressure is reduced at least 50 per cent while braking efficiency is boosted 100 per cent.

The combined effect of self centralizing, servo action and the increased power delivered to the working ends of the brake shoes through Boost-A-Brake puts 60 per cent of the braking on the front wheels. Fits Ford cars from 1928 to 1934 inclusive. Boost-A-Brake Co., San Jose, Cal.

DeLuxe Oil Filter

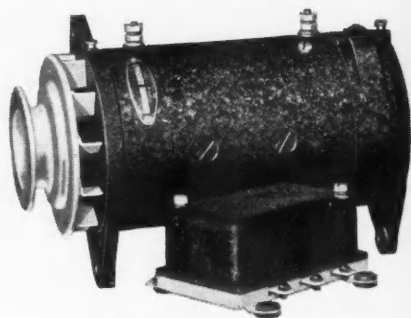
THE DeLuxe Products Corp., LaPorte, Ind., is making an oil filter in which it is necessary to change the cartridge only when the oil becomes discolored and then it can be changed in less than a minute without tools. This filter does not attempt to strain the colloids or hard carbon from the oil but absorbs them completely, neutralizes any acids, separates the water and solids from the oil, and leaves the oil clear and of natural color.

Delco-Remy Generator

A NEW line of special service generators, designed for replacement where the output of the original generator is not sufficient to provide for the current requirements, is announced by Delco-Remy Corp. Distribution will be made through United Motors Service.

Generators are offered in types especially designed for city police and state police car service, city delivery trucks, taxicabs, school buses and trucks in inter-city hauling service. All of the generators have external fan ventilation with current output controlled either by a step-voltage control unit mounted on the generator or a current and voltage regulator to be mounted on the dash.

For the commercial cars, there are three special service generators. To aid in the

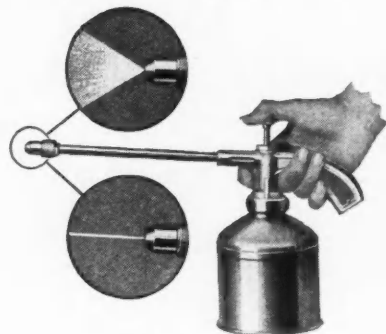


Delco-Remy special service generator

selection of the correct unit, Delco-Remy has published two booklets. These booklets may be obtained from any Authorized Electrical Service Station of United Motors Service or from the Delco-Remy Corp., Service Department, Anderson, Ind.

Hansen Hand Oiler

THE Hansen Mfg. Co., Cleveland, Ohio, announce their new Model 81 SPRAY-JET Hand Oiler for lubricating automobile springs, chassis, bodies, etc. It is manually operated and produces a direct stream or a concentrated fogless spray by simply rotating nozzle one quarter turn. Clogged orifice can be cleared instantly and surely by means of automatic nozzle cleaner. Pump



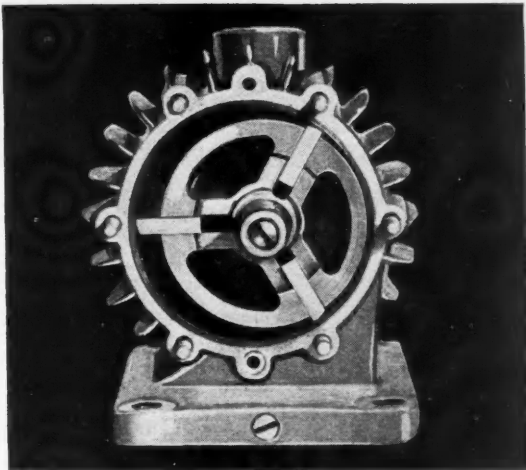
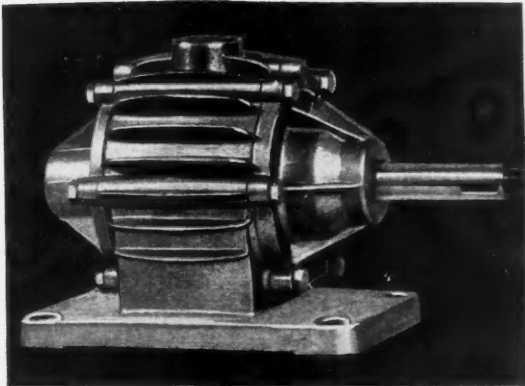
Model 81 hand oiler

has a long stroke and a small bore with only one working part. Pistol grip handle is made to fit the hand comfortably. It is of 1-qt. capacity and light in weight.

Constant maximum

POWER BRAKING

irrespective of engine or vehicle speed!



BENDIX *New* "CONVAC" VACUUM PUMP

CERTAIN types of vacuum power applications require a source of vacuum independent of the unavoidable variations in engine intake manifold conditions.

Bendix, pioneer and foremost specialist in vacuum power, has developed a remarkable engine-driven pump for this specific purpose—the New Bendix "Convac" Vacuum Pump.

It operates on the eccentric, centrifugally sliding vane principle, consuming very little power. At 3,000 r.p.m. it produces full 28 inches of vacuum, while at 200 r.p.m., the vacuum drops only to 25 inches!

Thus, at any truck or car speed, with either open or closed throttle, maximum Power Braking is always available—instantly and repeatedly. There is no lag under any conditions. Long tractor-trailer trains, Bendix B-K Power Brake equipped, are ideally served by the new Bendix "Convac" Vacuum Pump.

The Bendix "Convac" Vacuum Pump is designed for installation on standard base mountings. Write for details.

MANY OTHER USES!

*Wherever constant, reliable
vacuum is needed*

Bendix "Convac" Vacuum Pump provides a central source of power for the operation of coach and car doors, for remote-control signals, for constant-speed windshield wiper operation, and many other applications where unfluctuating vacuum is necessary.

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**BENDIX PRODUCTS
CORPORATION**

401 Bendix Drive, South Bend, Indiana
(Subsidiary of Bendix Aviation Corporation)

JULY, 1935

NEWS

Cummins Making Cross Country Run in Diesel-Engined-Car

A transcontinental economy run with a Diesel-engined car is being made by C. L. Cummins, president of the Cummins Engine Company, Columbus, Ind. The first leg of the run took him to White Sulphur Springs, W. Va., to the S.A.E. summer meeting.

The car driven by Mr. Cummins is an Auburn model 8-51 convertible phaeton in which the original eight-cylinder engine has been replaced by a new model of Cummins Diesel engine. This engine is an all-aluminum type, the integral crankcase and cylinder block being an aluminum casting and the cylinder head as well. The engine has six cylinders of 3 3/4 in. bore and 5 in. stroke, which makes the piston displacement 331.4 cu. in. (as compared with the 279.9 cu. in. of the original engine). It develops 85 hp. at 2200 r.p.m. and with accessories weighs 900 lb., or a little over 10 lb. per hp. Both the inlet and the exhaust valves have a diameter of 1 3/8 in.

There are seven main bearings on the crankshaft, of 3 3/8 in. diameter. There are four rings on each piston, including one oil ring.

The engine, being almost entirely of aluminum, weighs only between 50 and 75 lb. more than the Auburn engine.

A fuel mileage of between 25 and 30 is expected on the trip.

Truck Output 342,465 for 5 Months

Production of commercial cars, trucks and tractors totals 342,465 for the first five months of the year exceeding the 278,770 units produced the same period in 1934 by 63,695. Per cent gain is 23. May of this year exceeded May, 1934, production by 523 units. Respective totals for those months were 60,871 and 60,348. May, however, fell below April of this year by 18,681 units.

SAE Papers Discuss Diesels, Legislation

Wolf Wittek and Trieber Hold Interest at Summer Meeting

Members of the S.A.E. who attended the summer session at White Sulphur Springs, W. Va., heard Austin M. Wolf outline the activities of those agencies which seek to strangle highway transportation, in his paper, "What's the Destination for Motor Transportation?"

Mr. Wolf was optimistic enough to feel that highway transportation would win out because of its inherent advantages in spite of such drawbacks as the Kansas and New Mexico Port of Entry Laws and the discriminatory policy of some state regulatory commissions. In addition there are some 5000 bills in state legislatures this year designed to embarrass highway transportation.

The paper on "Diesels on Canadian Roads," by H. L. Wittek, indicated that Canadian operators are enthusiastic about Diesels especially since the fuel tax question has been settled by a levy on Diesel fuel at the same rate per gallon as that of gasoline. Also, a change in the Canadian custom rules permits British engines to be imported at a 15 per cent reduction in cost. Cold weather has apparently not been a serious drawback in the use of this type of engine.

O. D. Trieber of the Hercules Motor Co., read a paper on the development and characteristics of the Diesel engine. He stated that jet cleaning, which was one of the early service problems, was eliminated with the use of self-cleaning pintle-type nozzles. Oil consumption is about the same as that of a gasoline engine and so is the power per cubic inch of displacement. The Diesel is a little heavier and the maintenance is somewhat higher which is, of course, overcome by the reduction in fuel cost per mile.

Eastman Report Calls Trucks Superior as Modern Transport

The superiority of the motor vehicle because of its celerity in movement, economy and adaptability over other forms of freight transportation is emphasized in a report of Joseph B. Eastman, Federal Coordinator.

In his report M. Eastman states that modern business demands this celerity in movement, universal door-to-door service and equipment better adapted to meet today's needs.

The report also declares that modern commercial needs and competitive transportation conditions require a thorough re-examination of the operating methods of railroads, their service and equipment and of their rate structure.

J. N. Bauman, formerly assistant sales manager of The White Co. has been appointed general sales manager. He will direct the sales activities of White through a world-wide sales organization of factory branches and dealers.



Clifford Upped by Gar Wood

J. E. Clifford has been appointed general sales manager of Gar Wood, Marysville, Mich.

McDonald is Aluminum V-P

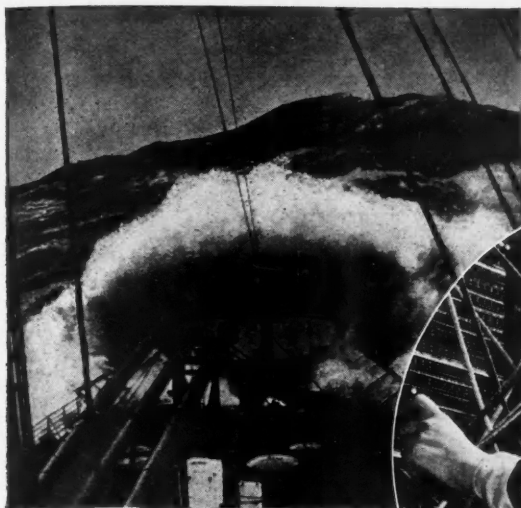
Donald McDonald has been appointed vice-president, functioning in a general executive capacity, of Aluminum Industries, Inc., Cincinnati.

[Additional News, Page 92]

New Truck Registrations by Makes by Months

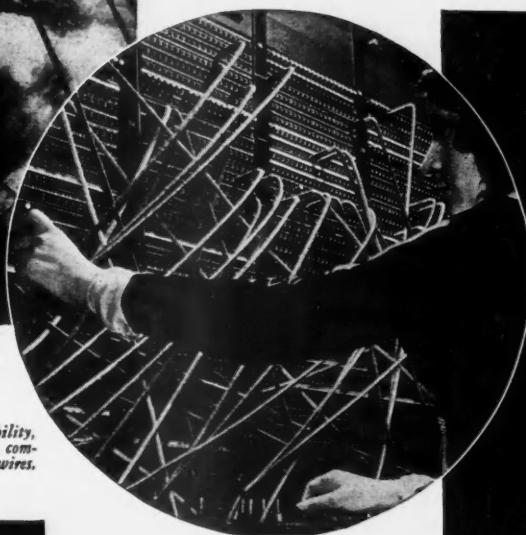
		Autocar	Brockway	Chevrolet	Diamond T	Dodge	Federal	Ford	G. M. C.	International	Mack	Reo	Sterling	Stewart	Studebaker	White-Indiana	Miscellaneous	Total
January.....	1935	71	86	9,867	550	5,141	152	13,260	858	3,513	114	380	10	42	127	308	280	34,759
January.....	1934	79	91	8,917	406	2,581	120	6,650	555	2,284	161	289	9	61	98	284	318	22,903
February.....	1935	41	54	11,701	499	3,271	113	14,330	570	3,174	63	292	10	34	107	217	321	34,797
February.....	1934	58	81	10,718	420	2,723	121	6,459	453	2,150	144	339	14	60	109	357	270	24,476
March.....	1935	56	67	13,744	534	4,284	132	16,805	850	3,673	100	389	14	60	135	258	410	41,511
March.....	1934	64	117	15,112	501	4,154	170	8,632	717	2,841	145	461	10	67	126	452	315	33,884
April.....	1935	79	109	15,024	568	5,708	177	17,943	870	4,554	159	449	31	62	189	309	554	46,785
April.....	1934	88	104	15,050	534	4,367	178	13,167	839	2,729	206	527	4	90	123	558	318	38,882
4 Months.....	1935	247	316	50,336	2,151	18,404	574	62,338	3,148	14,914	436	1,510	65	198	558	1,092	1,565	157,852
4 Months.....	1934	289	393	49,797	1,861	13,825	589	34,908	2,564	10,004	656	1,616	37	278	456	1,651	1,221	120,145
4 Months.....	% Change	-14	-20	+1	+16	+33	-3	+78	+23	+49	-33	-6	+76	-29	+22	-34	+28	+31

-- = Decrease.



At sea, for regular operation, and in any emergency, Exide Batteries stand ready to operate wireless apparatus, lights, pumps, bulkhead doors and other vital equipment on commercial, fishing and pleasure craft.

Because of their unfailing dependability, Exide Batteries are used by telephone companies to help carry your voice over the wires.



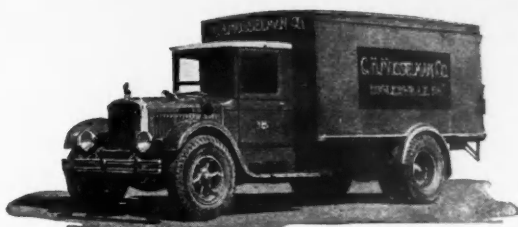
Railroads use Exides, not only for dependable, low-cost signal power, but for car-lighting, air-conditioning, Diesel starting, and materials handling trucks.



Utility companies depend on Exide Batteries to operate automatic, protective and regulating apparatus, both in routine service and emergencies.



For position lights, landing lights and radio reception, transport airplanes depend on Exide Batteries.



The Exide Battery in this truck gave 228,931 miles of faithful service—one reason why fleet operators throughout the country are cutting their costs with Exide.



There is a long life, dependable Exide for every type truck. A minimum of attention keeps Exides on the job . . . cutting costs.

FOR nearly half a century The Electric Storage Battery Company has been building batteries exclusively—making them for every storage battery purpose, and making them constantly better.

That is why a major part of American business and industry, as well as of every form of transportation—ashore, afloat, underground and in the air—have chosen Exides for countless vital services.

**Exide
BATTERIES
FOR
EVERY TYPE TRUCK**

The combined experience of large users—telephone companies, utilities, railroads—is convincing proof that the selection of Exides for any battery application assures unfailing dependability, high power ability, long life and low cost and ease of maintenance.

THE ELECTRIC STORAGE BATTERY CO.
Philadelphia

*The World's Largest Manufacturers
of Storage Batteries for Every Purpose
Exide Batteries of Canada, Limited, Toronto*

OPERATING A BREWERY FLEET IS JUST BEER & SKITTLES

(CONTINUED FROM PAGE 29)

commissions. Commissions are split 70-30.

Meetings for driver-salesmen and their helpers are held every Wednesday morning and selling talks are regularly given at these meetings by Fred R. Dolsen, who is vice-president and sales manager. Mr. Doyle, fleet superintendent, also talks on correct and safe driving practices.

In addition to drivers and helpers there are also eight district managers, each of whom is in charge of four truck crews. These district managers travel around in company-owned cars and each continually checks up on the customers serviced by the four truck crews under him, especially making careful investigation of any complaints that may be made by customers. They have no power over drivers but can recommend their discharge. All district managers were formerly driver-salesmen and it is part of their job to further the sale of Tivoli Beer.

THE Tivoli company maintains a garage 130 ft. by 90 ft. in size. Three mechanics are regularly employed, two of them being on duty at night and the third on days. There is a washer who works nights. The service shop in the garage is very well equipped with full sets of tools, valve grinder, presses, hydraulic jack, electric drills and grinders, battery chargers, various types of gages, wash rack, etc. There is a big blackboard in the office of the garage on which every truck is listed by number, and spaces are provided by vertical lines for recording a variety of service work that must be regularly done on each truck. The headings of these columns of data are as follows: 500 mile grease; 1000 mile grease; oil drain every 1500 miles; battery check every week; motor wash every 10 days; axles washed once a month; polish—in summer only.

Drivers use a daily defect report, and all defects reported are corrected by the mechanics that same night, if possible. Space is also provided on the defect report as shown for recording a variety of data on mileages and deliveries and on the back thereof additional space is designated for recording cost figures on fuel and oil consumption, grease, service labor, parts, repair labor and revenue. Finally, there is a big ledger sheet for recording data on each truck. On this sheet there is a horizontal space for each month and vertical spaces headed as follows: gas, oil, grease, parts and tires, repair labor, service labor (cleaning, greasing, etc.), depreciation, license and insurance, overhead and revenue.

Control is exercised over driver-salesmen for reducing maintenance costs by means of a maintenance chart showing the amount of maintenance cost on each truck other than the variables so that drivers can compare, at a glance, their maintenance cost with each other.

BY having all necessary service operations recorded and maintaining a continual check on all these operations by means, of the records. Maintenance Doyle is able to keep his motor trucks in efficient operating condition at all times and also to hold his costs down to such low figures as previously indicated.

Tivoli trucks are attractively finished in battleship gray and the word Tivoli sweeps along the sides of the trucks and trailers in enormous red script letters shaded with yellow and black. On each truck is a greatly enlarged reproduction of the company's bottle trade mark in the same colors used on the bottle labels. Of course, these trucks are veritable traveling billboards and are among the company's best advertising mediums. To keep the trucks continually spic and span in

Operator's Daily Defect Report	
Garage Telephone Ivanhoe 4177	
Truck No. _____	Date _____ 1935
Time Out _____	Time In _____
Truck is O. K. except the following Defect	
MILEAGE OUT _____	MILEAGE IN _____
DAILY MILEAGE _____	
FULL CAGES DELIVERED _____	FULL CAGES RETURNED _____
BARRELS DELIVERED _____	BARRELS RETURNED _____
HALF BARRELS DELIVERED _____	HALF BARRELS RETURNED _____
QUARTER BARRELS DELIVERED _____	QUARTER BARRELS RETURNED _____
EIGHTH BARRELS DELIVERED _____	EIGHTH BARRELS RETURNED _____
EMPTY CAGES RETURNED _____	EMPTY KEYS RETURNED _____
Signed _____ OPERATOR	
NOTE: Operator must make out Defect Card even though truck is in O. K. condition.	

Needed repairs are reported on this form daily—and taken care of during the night. The reverse side contains an itemized cost list for fuel, oil, etc.

appearance, they are washed three times a week and repainted once a year. The tops of enclosed bodies and trailers are painted with aluminum paint to deflect the sun.

Driver's Jury Trial

(CONTINUED FROM PAGE 32)

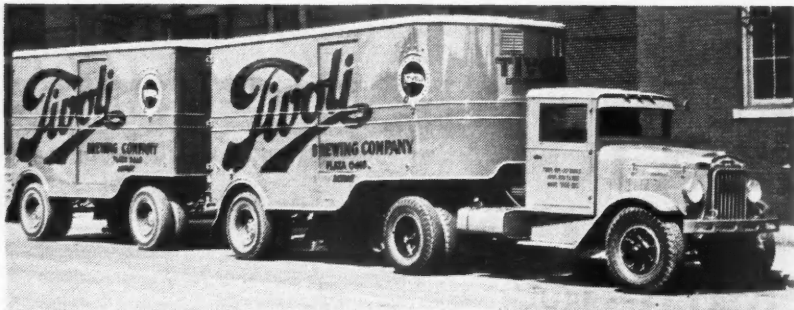
of training while his record is watched daily.

An important phase of the company's safety work lies in the regular nightly driver inspections conducted by John Paul. Inspections are made at the men's home by phone and on personal calls. Fleetman Paul phones those drivers scheduled to take out a truck at 4.00 a. m. the next morning. A company rule says such drivers must be home at 9:30. The call may be made any time after 9:30 p. m. so that a driver doesn't know when to expect it. This rule is rigidly adhered to, and drivers must observe them or they are not permitted to take out a truck the following day, thus losing a day's pay. Those drivers who haven't phones are visited personally by Paul. If the driver fails to be at home, word is left that he need not come to work the next day.

This sort of driver discipline is strict, but the safety record of Guerin's drivers justifies such discipline. Of course, preventive maintenance is a vital part of safety, and such maintenance is routine with the company.

A combination of these three: Careful selection of drivers, rigid check-up of drivers assigned to trucks and the trial by company jury, has proved a successful safety program for the Guerin company. Proof of the pudding lies in the fact that there have been only six accidents in the last 800,000 miles of operation.

50-ft. combinations such as this serve 16 cities in Michigan and Ohio with Tivoli beer

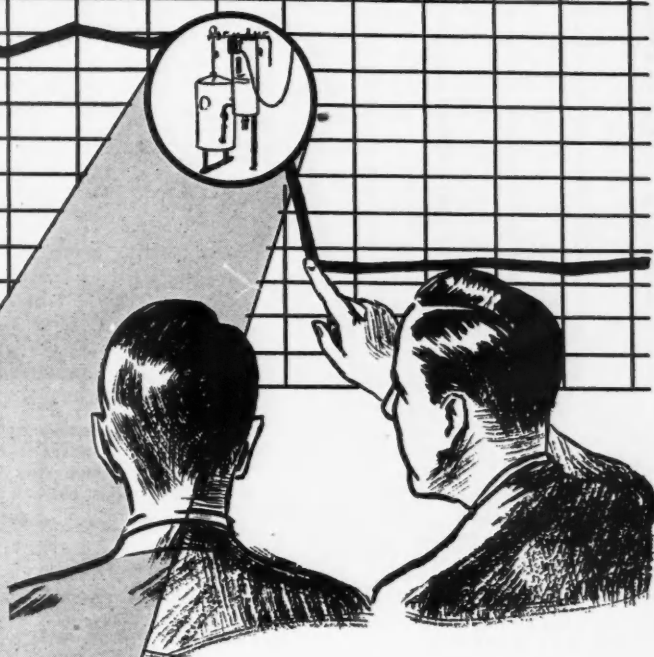
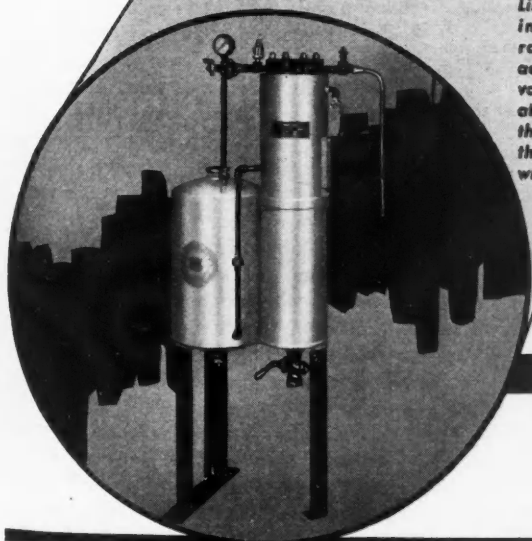


IF YOU DONT BUY- YOU PAY- AND PAY- AND PAY!

WHEN a SKINNER OIL PURIFIER enters the picture, your lubrication costs drop from forty to sixty per cent.

It is practical to renew 94 to 98% of used oil at 1½ to 4 cents per gallon and oil renewed with a SKINNER PURIFIER is as good as or better than new oil in the crankcase.

Skinner Stream-Line Filters come in a complete range of sizes, adaptable to any volume of operation—Some of them cost no more than a new typewriter.



Plug this needless waste of lubrication dollars. Project a SKINNER OIL PURIFIER into your lubrication program—it gives you a competitive advantage and pays for itself in a very few months.

Fill in the coupon and we will tell you, just what a SKINNER OIL PURIFIER will mean to you in dollars and cents per month, per year.

SKINNER OIL PURIFIERS

MAIL COUPON TODAY

SKINNER PURIFIERS, INC., 2225 Dalzelle, Detroit

We want complete information on Skinner Oil Purifying. Our new oil purchases monthly are _____ gal. at a cost of _____ per gal. Our electrical current is _____ per kilowatt hour.

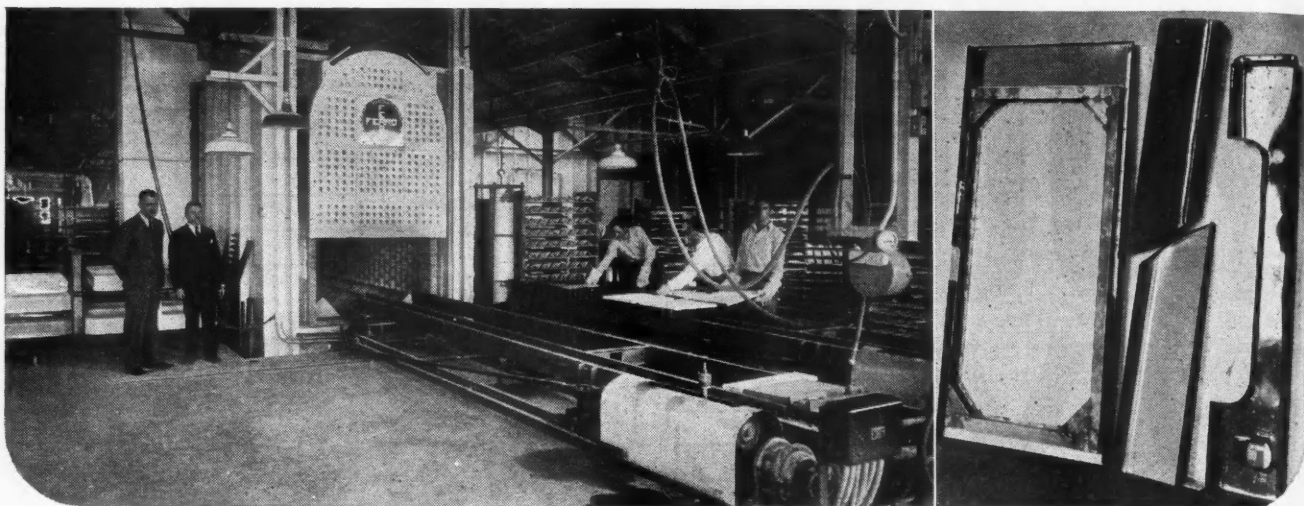
Name _____

Address _____

If you will give us the above information, we can make you a specific recommendation, without delay

PORCELAIN ENAMEL FINISH FOR TRUCKS

(CONTINUED FROM PAGE 33)



Body panels (above right) are processed at the plant of the Ferro Enameling Co., Oakland, Cal., where they are porcelain enamel finished. The oven is seen in the background

we have not used them yet, because of the initial expense involved and because of a probable future change in lettering and design which would obsolete our decals. When the panels are completed they are returned to the body builder and mounted in the usual manner. There are no exposed screw heads and the general appearance of the unit is that of a high class paint job.

The methods employed by the Ferro Enameling Co. in handling the panels has been such as to produce a perfectly flat surface without warp even though some of the panels are 89 in. by 38 in. in size.

Now as to cost. The lettering requires stencils as above stated. These, of course, may be used many times. For our particular design, the cost for stencils is \$38.13. Divided among 10 units this is only \$3.81 per unit. The porcelain enamel work (not counting the sheet metal panels which are a part of the body work) costs \$86.27. There are 22 panels in all, with a total of 174.26 sq. ft. The average cost is \$0.495 per square foot. The body building cost is somewhat increased (about \$35 per unit) due to the operation of removing the panels after fitting and the replacement after application of the porcelain enamel. But the job is not quite complete after mounting of the panels. We must now paint the roof, fenders, hood, cowl, front doors and running gear. This costs us \$58.50. To paint a complete truck of this size (body 10 ft. long, 5 ft. wide and 5 ft. high, inside) costs us about \$110 in our own paint shop, including cost of decals for lettering, etc.

Summarizing the comparative cost of

porcelain enamel and paint, we have the following:

	Porcelain Enamel	Paint
Extra body cost for fitting and removing panels..	\$ 35.00	
Cost of stencils.....	3.81	
Porcelain Enameling	86.27	
Painting roof, fenders, etc.	58.50	
Painting Complete Unit.....		\$110.00
Totals	\$183.58	\$110.00
Difference		\$ 73.58

We estimate that the total cost of the two types of finish over a period of 10 years, as follows:

	Porcelain Enamel	Paint
Investment	\$183.58	\$110.00
Repaint every 30 months—3 jobs @ \$110.00....		330.00
Touch-up every 15 months—7 jobs @ \$10.00....		70.00
Waxing every 4 months—29 jobs @ \$7.00....		203.00
Time out of service for painting 4 jobs of 5 days—20 days @ \$2.00		40.00
Repainting fenders, hood, etc., every 40 months—2 jobs @ \$40.00.....	80.00	
Repair and replacement of damaged panels—10 sq. ft. per year—90 sq. ft. @ .50	45.00	
Total	\$308.58	\$753.00
Difference		308.53
Difference		\$444.42

Average saving per year on porcelain enamel job, \$44.44.

This represents a return of 60.25 per cent per annum on the extra investment of \$73.58 per unit due to porcelain enamel finish.

THE porcelain enamel adds less than 0.2 lbs. (3 oz.) per square foot to the weight of the bare metal panel. The total area of porcelain enamel is 174.26 sq. ft. or a total of 35 lbs. The weight of paint on this same area is about 18 lb. The extra weight of the porcelain enamel is, therefore, negligible.

The high class appearance of these panels will be noted by even the casual observer. How long will this appearance last? The answer to this question can only be obtained by experience in other fields and deductions from observations of the panels themselves.

We believe that, barring collision, these panels will last as long as the body, 10 years or more. How do we arrive at this conclusion:

1. On the premises that porcelain enamel covered metal signs have been in use for a generation or more (in some cases 50 years) exposed to all sorts of weather and climatic conditions and still look good.

2. Porcelain enamel is used to cover refrigerators and stoves—it stands extremes of cold and heat well.

3. It is in use in South America as outside surfacing for railroad coaches where it is exposed to dust and sand storms, without failure.

4. Oil, soot, grease have no effect.

5. A scrape which will ruin a painted panel has no effect on porcelain enamel.

(TURN TO PAGE 96, PLEASE)

COMMERCIAL CAR JOURNAL'S TRUCK SPECIFICATIONS TABLE

The Commercial Car Journal's Truck Specifications Table is brought up to date in each issue from data supplied monthly by truck manufacturers

KEY TO ABBREVIATIONS AND REFERENCE MARKS

GENERAL

Specifications are of basic models. Variations are available.

Chassis Price—Chassis price quoted applies to the standard wheelbase and specifications listed. All prices are F.O.B. factory.

***—List price not yet established. Ready next issue.

Tonnage Rating—Where a spread of ratings is given the maximum ratings are for ideal operating conditions and the minimum for extremely difficult conditions; the ranges between are for varying operating conditions.

Gross Vehicle Weight—Is chassis weight, plus body and cab, plus payload. Gross vehicle weight given for a model is based on maximum recommended tire size and not on tires listed as standard equipment.

Chassis Weight Stripped—Includes gas, oil and water and all things included in chassis price. Does not include the weight of cab.

Maximum Brake H. P. at Given R.P.M.—Is actual dynamometer reading without accessories.

Tractors—Unless given the designation N (meaning not available as tractor), all standard models may be assumed to be available as tractors.

(A) All Torque and Brake Horsepower values listed are based on engine outputs with all Standard Equipment Accessories running and are the same values obtaining with the truck on the road in actual operation.

(N) Not available as tractor.

(T) This designation accompanying a model number indicates vehicle is specifically designed for tractor use only. c. o. e.—Cab-over-engine design.

(3) Corbitt—Larger engines and corresponding auxiliary units provided on all models at extra cost.

(4) Day Elder—Model 75—1 1/4 ton—same specifications except price \$945 and larger tire size—B6.00/20 front and DB6.00/20 rear.

(5) Dodge—F-61 available as special tractor truck with 146-inch wheelbase with model designation of F-60, at \$2645. K-61 available as special tractor truck with 146-inch wheelbase with model designation of K-60, at ***.

(6a) Dodge—Model H20, 3 1/4-ton, gross vehicle weight 6,000 lb., price \$502, has same specifications as H30 except tires which are 7.50/17 and lighter rear springs.

(6) General Motors—Model T-16L, 3/4-ton, same as T-16 except light ride springs, smaller tires and 4.57 to 1 gear ratio. Models T-18 to T-61 inclusive are also available for export only as coach chassis. Dual performance axle at extra cost in Models T-16 and T-18. Double reduction axles optional at extra cost in Models T-43, T-46, T-46H, T-51, T-73H and T-74. Worm type axles optional at price deduction in Models T-61, T-75T, T-75 and T-83. GMC "400" engine at price deduction in Models T-78 and T-84. Chassis prices and weights on all cab-over-engine models include the cab. A complete line of super-heavy duty models designated T-85 series (4-wheel) and T-95 series (6-wheel) custom-built to exactly meet customer's requirements are available with a range of axles, wheelbases, engines, transmissions, etc. and prices will be quoted upon application.

Gramm—Larger engines and corresponding auxiliary units provided on all models at extra cost when type of service demands. Wheelbases and body mounting dimensions may change to suit special requirements. Double reduction axles available on all models except AX and BX.

Series CXH is supplied with Hercules JXB engine in Model CXHB and Hercules JXC in Model CXHC.

(8) International Harvester—A-1, 3/4-ton, same as A-2 except less spring leaves and smaller tires. Model C-10, 3/4-ton, same as C-20 except less spring leaves.

(9) Le Moon—Model 600 available with Lyc. AEC at same cost. Models 701 and 801 available with Waukesha 6SR at same cost.

(10) Sterling—Rocker arm used in place of springs.

(11) Sterling—Diesel Equipped. †Reo—Model 1D is the longer wheelbase edition of Model 1B. The frame dimension is 7x2 3/4 x 1. It is furnished at extra cost.

††Reo—2J, 2K same as 2H except 166 in. wheelbase and price of \$1695.

††Reo—3J same as 3H except wheelbase of 170 in. and price of \$2085; 3K same as 3H except 185 in. wheelbase and price of \$2155; 3M same as 3H except 205 in. wheelbase.

(11) Studebaker—S-2 in 141 in. and 165 in. wheelbases has 6H in. frame depth.

(12) White—Each model shown is furnished with different specifications for different tonnage ratings.

—Factory governed speed 2400 r.p.m.

(12a) White—Special prices for each installation.

(13) Marmon-Herrington—Available with Hercules Diesel engine. Price on application.

(14) Ford—Rear axle ratios 5.14 and 6.6 optional on 1 1/4-ton trucks.

(15) Mack—Chassis price and weight include cab.

(16) Biederman—Will furnish Continental, Hercules, Waukesha and Lycoming engines at the buyer's option.

(17) Moreland—All Moreland models available with Waukesha engines and as six-wheelers with dead axle.

(18) Walker—Frame lengths may be changed, within limits, to suit individual requirements, at no additional cost.

(19) Available—Models WS125, WS240 and WS300 are available as cab-over-engine types.

(20) Chevrolet—With dual wheels and 6.00/20—6-ply front and rear tires, the gross weight is 9300; with auxiliary springs and dual wheels, 32x6—10-ply front and rear tires, the gross is 11300.

MAKES—ALL

AB—American Bosch.

A La F—American La France.

AL—Auto Lite.

B—Bendix.

BB—Borg & Beck.

BL—Brown-Lipe.

BO—Bendix front, Own rear.

Blo—Blood.

Bri—Briggs.

Bu or Bud—Buda.

BW—Borg Warner.

BWs—Bendix front, Westinghouse rear.

C or Col—Columbia.

Car—Carter.

Ch—Chicago.

Cl—Ignition by compression.

Cl or Cla—Clark.

Cle—Cleveland.

Co—Covert.

Con—Continental.

Cot—Cotta Gear.

Cum—Cummins-Diesel.

Det—Detroit Lubricator.

DG—Detroit Gear and Machine.

DR—Delco Remy.

Eat—Eaton.

El—Elsmann.

Ev—Governor built in engine.

EV—Electro-Vac (gov.) Pierce.

Fe—Fedders.

Fu—Fuller.

Ge—Gemmer.

GO—G. & O.

Ha—Handy (governor).

Ha—Hannum (steering gear).

HaS—American Car & Fdry.

Her—Hercules.

Hr—Harrison.

HS—Merchant & Evans (clutch).

HS—American Car & Fdry. (governor).

Jac—Saginaw.

Jo—Jones.

KP—Handy.

L—Lockheed.

Lav—Lavine Gear.

Le—Leibing.

Li—Lipe, W. C.

LN—Leece Neville.

Lo—Long.

LO—Lockheed front, Own rear.

LW—Lockheed front, Wisconsin rear.

Lyc—Lycoming.

Mc—McCord.

Ma—Marvel.

ME—Merchant & Evans.

MM—Mechanics Mach.

Mo—Modine (radiator).

Mo—Monarch (governor).

My—Mallory.

NE—North East.

No—Not supplied.

ns—No Standard.

O or Ow—Own.

Op or Opt—Optional.

Pe—Pierce (governor).

Pe—Perflex (radiator).

PS—Peters & Sneed.

RB—Robt. Bosch.

Ro—Rockford.

Ros—Ross.

Sc—Scintilla.

Sch—Wheeler-Schebler.

Shu—Shuler.

SpB—Spicer and Blood.

SpI—Spicer.

St or St—Sterling.

Sto.—Bat.—Storage Battery.

Str—Stromberg.

Til—Tillotson.

T or Tim—Timken.

TWH—Timken Wisconsin Herrington.

Uni—Universal Products.

WG—Warner Gear.

Wa—Waukesha (governor).

Wau—Waukesha.

W or Wis—Wisconsin.

Ws—Westinghouse.

Yo—Young.

Zen—Zenith.

C—Cast Iron.

N—Nickel Iron.

S—Aluminum alloy with strut.

Main Bearings

R—Rear main bearing.

Oiling System

CC—Pressure to main, connecting rod and camshaft bearings.

FP—Pressure to main, connecting rod camshaft bearings and piston pins.

PC—Pressure to mains and connecting rod bearings.

PG—Pump, gravity and splash.

PS—Pressure with splash.

Line Number	MAKE AND MODEL	GENERAL (See Keynote)				TIRE SIZE		ENGINE		TRANSMISSION		REAR AXLE		FRAME			
		Tonnage Rating	Chassis Price	Standard Wheelbase	Gross Vehicle Weight	Chassis Wt. (Stripped)	Front	Rear	Make and Model	No. of Cylinders, Displacement and Stroke	Make and Model	Location, Forward Location and Speeds	Make and Model	Drive Type	GEAR RATIOS In High In Low	Side Rail Dimensions	Type
1	A.C.F. 160	6	6950	186 222	26000	10170	B9.75/22	B9.75/22	Has 160	6-4 1/2 x 5 1/2	BL 1714	U4 Op Tim	76730	2F	R 7.46 52.7	6x3 1/2 x 4 1/2	P
2	175B 6 1/2	6 1/2	8300	186 222	26000	10750	B10.50/22	B10.50/22	Has 175	6-5 1/2 x 5 1/2	BL 714	U4 Op Tim	76730	2F	R 7.46 52.7	6x3 1/2 x 4 1/2	P
3	175A 7 1/2	7 1/2	8800	186 240	30000	11610	B10.50/24	B10.50/24	Has 175	6-5 1/2 x 5 1/2	BL 714	U4 Op Tim	76730	2F	R 7.48 52.7	6x3 1/2 x 4 1/2	P
4	Armleder 11H 1 1/2-2 1/2	1 1/2-2 1/2	1295	156 195	11500	4850	B6.50/20	DB6.50/20	Con 20C	6-3 1/2 x 4 1/2	BL 35	U4 No Tim		BF	H 5.83 31.2	6x3 1/2 x 4 1/2	P
5	21Ha 2 1/2-4	2 1/2-4	2185	160 207	15300	5450	B8.25/20	DB8.25/20	Her WXC	6-4 1/2 x 4 1/2	Fu 5-A-38	U5 No Tim		BF	H 6.06 38.5	6x3 1/2 x 4 1/2	P
6	31Ha 3 1/2-6	3 1/2-6	2695	146 213	19500	5750	B9.00/20	DB9.00/20	Her WXC	6-4 1/2 x 4 1/2	Fu 5-A-38	U5 No Tim		BF	H 6.06 38.5	6x3 1/2 x 4 1/2	P
7	41Ha 4 1/2-8	4 1/2-8	3060	146 227	23000	6000	B9.75/20	DB9.75/20	Her WXC	6-4 1/2 x 4 1/2	Fu 5-A-38	U5 No Tim		BF	H 6.06 38.5	6x3 1/2 x 4 1/2	P
8	61Ha 6 1/2-11	6 1/2-11	3725	146 227	24000	7400	B9.75/20	DB9.75/20	Her WXC2	6-4 1/2 x 4 1/2	Fu 5-A-38	U5 No Own		2F	R 7.07 49.8	6x3 1/2 x 4 1/2	P
9	71Ha 7 1/2-11	7 1/2-11	5895	152 247	35000	9820	B10.50/24	DB10.50/24	Her RXC	6-4 1/2 x 4 1/2	Fu 5-A-53	U5 No Wis		2F	R 7.07 49.8	6x3 1/2 x 4 1/2	P
10	(T) TRD 10	10	4150	148 174	39000	7226	B9.75/20	DB9.75/20	Her YXC	6-4 1/2 x 4 1/2	Fu 5-A-53	U5 No Own		2F	R 7.8 56.8	7x3 1/2 x 4 1/2	P
11	(T) TRDA 12	12	4350	148 174	39000	7226	B9.75/20	DB9.75/20	Her YXC3	6-4 1/2 x 4 1/2	Fu 5-A-53	U5 No Own		2F	R 7.8 56.8	7x3 1/2 x 4 1/2	P
12	(T) TRDB 15	15	4595	148 174	45000	7326	B9.75/20	DB9.75/20	Her RXC	6-4 1/2 x 4 1/2	Fu 5-A-53	U5 No Own		2F	R 7.8 56.8	7x3 1/2 x 4 1/2	P
13	Autocar RG 2 1/2-5 1/2	2 1/2-5 1/2	3000	150 192		6756	B8.25/20	DB8.25/20	Own R	6-3 1/2 x 4 1/2	Own T	U4 No Own D		2F	H 6.21 39.3	8x3 1/2 x 4 1/2	T
14	RE 2 1/2-6 1/2	2 1/2-6 1/2	3420	150 192		7215	B9.75/20	DB9.75/20	Own R	6-3 1/2 x 4 1/2	Own T	U4 No Own DF		2F	H 7.13 45.1	8x3 1/2 x 4 1/2	T
15	DF 4-8 1/2	4-8 1/2	3950	135 177		7634	B9.00/20	DB9.00/20	Own SD	6-4 1/2 x 4 1/2	Own T	U4 No Own TE		2F	H 6.43 40.7	8x3 1/2 x 4 1/2	T
16	DEH 5-8 1/2	5-8 1/2	4125	135 177		7750	P36x8	DP36x8	Own SD	6-4 1/2 x 4 1/2	Own T	U4 No Own N		2F	H 6.43 40.7	8x3 1/2 x 4 1/2	T
17	N 5-8 1/2	5-8 1/2	4650	178 213		8680	B9.75/20	DB9.75/20	Own SCH	6-4 1/2 x 4 1/2	Own D	U5 No Own N		2F	H 7.20 45.6	8x3 1/2 x 4 1/2	T
18	NF 6-9	6-9	4850	178 213		9284	B9.75/22	DB9.75/22	Own SCH	6-4 1/2 x 4 1/2	Own D	U5 No Own TF		2F	H 7.20 45.6	8x3 1/2 x 4 1/2	T
19	S 6-9	6-9	5600	168 186		9464	B9.75/22	DB9.75/22	Own SCH	6-4 1/2 x 4 1/2	Own D	U5 No Own CG		2F	H 8.52 54.0	10x3 1/2 x 4 1/2	T
20	CE 7-10	7-10	6000	172 203		10300	B10.50/24	DB10.50/24	Own SCM	6-4 1/2 x 4 1/2	Own D	U4 A 3 Own CG		2F	H 9.92 121.1	10 1/2 x 3 1/2 x 4 1/2	T
21	NFS 7-10	7-10	5600	208 208		10000	B10.50/20	DB10.50/20	Own SCH	6-4 1/2 x 4 1/2	Own T	U5 No Own CG		2F	H 8.57 54.3	8x3 1/2 x 4 1/2	T
22	CE 7-10	7-10	6000	172 203		10300	B10.50/24	DB10.50/24	Own SCM	6-4 1/2 x 4 1/2	Own D	U5 No Own TG		2F	H 8.68 55.0	10 1/2 x 3 1/2 x 4 1/2	T
23	NFS 7-10	7-10	5600	208 208		10000	B10.50/20	DB10.50/20	Own SCH	6-4 1/2 x 4 1/2	Own T	U5 No Own CG		2F	H 8.57 54.3	8x3 1/2 x 4 1/2	T
24	TS 10	10	6600	204 204		10823	B10.50/24	DB10.50/24	Own SCM	6-4 1/2 x 4 1/2	Own D	U4 No Own TG		2F	H 8.68 55.0	10 1/2 x 3 1/2 x 4 1/2	T
25	TS 10	10	6600	204 204		10823	B10.50/24	DB10.50/24	Own SCM	6-4 1/2 x 4 1/2	Own D	U4 No Own TG		2F	H 8.68 55.0	10 1/2 x 3 1/2 x 4 1/2	T
26	(Eng. up. seat) UDF 5 1/2-6 1/2	5 1/2-6 1/2	6130	214 228		10020	B9.75/22	DB9.75/22	Own SCM	6-4 1/2 x 4 1/2	Own T	U5 No Own CG		2F	H 7.20 45.6	8x3 1/2 x 4 1/2	T
27	UN 5 1/2-8 1/2	5 1/2-8 1/2	4500	128 163		9098	B9.75/20	DB9.75/20	Own SCH	6-4 1/2 x 4 1/2	Own T	U4 No Own TE		2F	H 6.43 40.7	8x3 1/2 x 4 1/2	T
28	UNF 5 1/2-8 1/2	5 1/2-8 1/2	5050	128 163		9415	B9.75/22	DB9.75/22	Own SCH	6-4 1/2 x 4 1/2	Own D	U5 No Own TF		2F	H 7.20 45.6	8x3 1/2 x 4 1/2	T
29	UNFS 7-10	7-10	5600	145 145		9585	B10.50/20	DB10.50/20	Own SCH	6-4 1/2 x 4 1/2	Own T	U4 No Own TF		2F	H 7.20 45.6	8x3 1/2 x 4 1/2	T
30	US 6-8 1/2	6-8 1/2	5900	109 109		9115	B9.75/22	DB9.75/22	Own SCH	6-4 1/2 x 4 1/2	Own T	U4 No Own CG&TG		2F	H 7.20 45.6	8x3 1/2 x 4 1/2	T
31	UT 7-10	7-10	6600	145 145		9960	B10.50/22	DB10.50/22	Own SCM	6-4 1/2 x 4 1/2	Own D	U5 No Own CG&TG		2F	H 8.68 55.0	10 1/2 x 3 1/2 x 4 1/2	T
32	UTS 10	10	10927	B10.50/24		10927	B10.50/24	DB10.50/24	Own SCM	6-4 1/2 x 4 1/2	Own T	U4 No Own TG		2F	H 8.68 55.0	10 1/2 x 3 1/2 x 4 1/2	T
33	GUT 11-12 1/2	11-12 1/2	6450	145 163		10525	B9.75/22	DB9.75/22	Own SCM	6-4 1/2 x 4 1/2	Own T	U4 A 3 Own CG&TG		2F	H 7.20 45.6	8x3 1/2 x 4 1/2	T
34	Available (19) W-120 1 1/2	1 1/2	1370	Op Op	12500	4000	B6.50/20	DB6.50/20	Wau BL	6-3 1/2 x 4 1/2	WG T9	U4 No Tim	53300	SF	H 6.6 42.2	10x2 1/2 x 4 1/2	TX
35	W-170 2 1/2	2 1/2	1780	Op Op	14000	4700	B7.50/20	DB7.50/20	Wau BL	6-3 1/2 x 4 1/2	WG T9	U4 No Tim	54410	SF	H 6.8 43.5	10x2 1/2 x 4 1/2	TX
36	W-210 3 1/2	3 1/2	2175	Op Op	16000	4800	B7.50/20	DB7.50/20	Wau BK	6-3 1/2 x 4 1/2	Fu 5-A-290	U5 No Tim	54410	SF	H 6.8 43.5	10x2 1/2 x 4 1/2	TX
37	W-240 4 1/2	4 1/2	3025	Op Op	20700	7000	B9.00/20	DB9.00/20	Wau BK	6-3 1/2 x 4 1/2	Fu 5-A-290	U5 No Tim	56200	SF	H 7.4 45.1	12x2 1/2 x 4 1/2	TX
38	W-300 5	5	4125	Op Op	25500	8200	B9.75/20	DB9.75/20	Wau 6-110	6-4 1/2 x 5 1/2	Fu 5-A-530	U5 No Tim	58205	SF	H 7.8 54.6	12x2 1/2 x 4 1/2	TX
39	W-400 5	5	4125	Op Op	25500	8200	B9.75/20	DB9.75/20	Wau 6-125	6-4 1/2 x 5 1/2	Fu 5-A-530	U5 No Tim	65725H	WF	H 8.5 60.0	14x3 1/2 x 4 1/2	TX
40	Biederman 10 1 1/2	1 1/2	895	130 157	6000	2800	B6.00/20	B6.00/20	Con 25A (16)	6-3 1/2 x 4 1/2	War	U4 No Cla	B373	BF	H 5.10 31.6	7x3 1/2 x 4 1/2	T
41	10 30	30	1230	157 170	8400	3200	B6.00/20	DB6.00/20	Wau 68L (16)	6-3 1/2 x 4 1/2	War	U4 No Cla	B373	BF	H 6.37 39.4	7x3 1/2 x 4 1/2	T
42	40 2 1/2	2 1/2	1795	180 200	16000	5400	B8.25/20	DB8.25/20	Wau 68L (16)	6-3 1/2 x 4 1/2	War	U4 No Cla	B373	BF	H 6.37 39.4	7x3 1/2 x 4 1/2	T
43	50 3	3	2400	180 200	20000	6450	B9.00/20	DB9.00/20	Wau 68L (16)	6-3 1/2 x 4 1/2	War	U4 No Cla	B613	BF	H 6.37 39.4	7x3 1/2 x 4 1/2	T
44	60 3	3	3150	180 210	20000	6820	B9.00/20	DB9.00/20	Lyc ASE (16)	6-3 1/2 x 4 1/2	BL	U5 No Cla	B805	BF	H 6.42 40.7	7 1/2 x 3 1/2 x 4 1/2	T
45	70 3 1/2	3 1/2	3600	157 210	24000	7530	B9.75/20	DB9.75/20	Her WXC3 (16)	6-4 1/2 x 4 1/2	BL	U5 No Wis	1237	2F	R 8.00 58.7	8x3 1/2 x 4 1/2	T
46	80 5	5	4200	157 210	25000	8500	B10.50/20	DB10.50/20	Her RXC (16)	6-4 1/2 x 4 1/2	Ful	U5 No Wis	1737	2F	R 8.94 65.1	10x3 1/2 x 4 1/2	T
47	Brockway 78 1 1/2-2	1 1/2-2	895	138 164	10500	3950	B6.00/20	DB6.00/20	Con 24B	6-3 1/2 x 4 1/2	WG T9	U4 No Tim	53521H	SF	H 5.66 36.2	7 1/2 x 3 1/2 x 4 1/2	T
48	82 2 1/2-3 1/2	2 1/2-3 1/2	1240	144 176	12000	4300	B6.50/20	DB6.50/20	Con 28B	6-3 1/2 x 4 1/2	WG T9	U4 No Tim	53521H	SF	H 6.6 42.2	7 1/2 x 3 1/2 x 4 1/2	T
49	90X 2 1/2-3 1/2	2 1/2-3 1/2	1470	150 176	14000	4545	B7.00/20	DB7.00/20	Con 28B	6-3 1/2 x 4 1/2	WG T9	U4 No Tim	53307H	SF	H 5.83 38.5	7 1/2 x 3 1/2 x 4 1/2	T
50	96 2 1/2-3 1/2	2 1/2-3 1/2	1740	156 176	14000	5075	B7.00/20	DB7.00/20	Con 29B	6-3 1/2 x 4 1/2	BL B341	U4 No Tim	53307H	SF	H 5.83 38.5	7 1/2 x 3 1/2 x 4 1/2	T
51	105X 3 1/2-4 1/2	3 1/2-4 1/2	2075	164 186	16000	5435	B7.50/20	DB7.50/20	Con 29B	6-3 1/2 x 4 1/2	BL B341	U4 No Tim	54411H	SF	H 5.83 38.5	8x3 1/2 x 4 1/2	T
52	125X 3 1/2-4 1/2	3 1/2-4 1/2	2245	164 208	18500	5900	B8.25/20	DB8.25/20	Con 31B	6-3 1/2 x 4 1/2	BL B341	U4 No Tim	56200H	SF	H 6.17 40.7	8x3 1/2 x 4 1/2	T
53	130 3 1/2-4 1/2	3 1/2-4 1/2	2385	176 206	18500	6150	B8.25/20	DB8.25/20	Con 31B	6-3 1/2 x 4 1/2	BL B341	U4 No Tim	56200H	SF	H 6.17 40.7	8x3 1/2 x 4 1/2	T
54	145 3 1/2-4 1/2	3 1/2-4 1/2	2680	176 206	18500	6235	B8.25/20	DB8.25/20	Con 32B	6-4 1/2 x 4 1/2	BL 3241	U4 Op Tim	56200H	SF	H 6.17 40.7	8x3 1/2 x 4 1/2	T
55	150X 4 1/2-5 1/2	4 1/2-5 1/2	2710	176 206	18500	6300	B8.25/20	DB8.25/20	Con 32B	6-4 1/2 x 4 1/2	Fu 5-A-38	U5 Op Tim	56200H	SF	H 6.17 40.7	8x3 1/2 x 4 1/2	T
56	150X 5 1/2-6 1/2	5 1/2-6 1/2	2260	156 188	15000	5800	B7.50/20	DB7.50/20	Con 30B	6-4 1/2 x 4 1/2	BL 314	U4 Op Tim	54300H	SF	H 5.83 38.5	7 1/2 x 3 1/2 x 4 1/2	T
57	160 4 1/2-5 1/2	4 1/2-5 1/2	3355	170 200	21000	6385	B8.25/20	DB8.25/20	Con 30B	6-4 1/2 x 4 1/2	BL 314	U4 Op Wis	5000L 2F		H 6.66 43.5	7 1/2 x 3 1/2 x 4 1/2	T
58	160 4 1/2-5 1/2	4 1/2-5 1/2	3355	170 200	21000	6385	B8.25/20	DB8.25/20	Con 30B	6-4 1/2 x 4 1/2	BL 314	U4 Op Wis	5000L 2F		H 6.66 43.5	7 1/2 x 3 1/2 x 4 1/2	T
59	160 4 1/2-5 1/2	4 1/2-5 1/2	3355	170 200	21000	6385	B8.25/20	DB8.25/20	Con 30B	6-4 1/2 x 4 1/2	BL 314	U4 Op Wis	5000L 2F		H 6.66 43.5	7 1/2 x 3 1/2 x 4 1/2	T

Line Number	ENGINE DETAILS										FUEL SYST.	ELEC-TRICAL	CLUTCH Type and Make	Radiator Make	Universal Make	FRONT AXLE	Steering Gear Make	BRAKES			BODY MOUNT-ING DATA			SPRINGS								
	Displacement	Comp. Ratio	Torque lb. ft.	A.M.A. Rated H.P.	Max. Brake H.P. at R.P.M.	Valve Argmt.	Camshaft Drive	Piston Material	MAIN BEARINGS									Oiling System	Governor Make	Carburetor Make	Fuel Feed	Ignition System Make	Generator, Starter Make	Service Make	Lining Area	Drum Material	Hand Location	Cab to Rear of Frame	Cab to Rear Axle	Width of Frame	Front	Rear	Auxiliary Type
									Number and Diameter	Length	Make	Location	Operation																			
1468	4.4	322	43.3	120	2200	H	C	A	4-2 1/2	10%	CC	Ha	Zen	V	DR	DR	P.B.L.	Lo	Spl	Tim	27451	Ros	O41A	720	A	CD	172	102	33 1/2	42x3	56x4	1/2
2707	4.4	500	60.	175	2200	H	C	A	7-3 1/2	14%	CC	Ha	Zen	M	DR	DR	dp.Lo	Lo	Spl	Tim	27451	Ros	O41A	720	A	CD	172	102	33 1/2	42x3	56x4	1/2
3707	4.4	1500	67.	175	2200	H	C	A	7-3 1/2	14%	CC	Ha	Zen	M	DR	DR	dp.Lo	Lo	Spl	Tim	27451	Ros	O41A	816	A	CD	172	102	33 1/2	42x3	56x4	1/2
4248	5.0	150	27.3	76	2800	L	G	A	7-2 1/2	10%	FP	No	Zen	M	DR	DR	D.B.L.	Yo	Spl	Tim		Ros	L41H	380	G	TX	129 1/2	Opt	31 1/2	40x2 1/2	50x3	1/2
4339	4.7	225	38.4	78	2400	L	G	A	7-2 1/2	13%	PC	Mo	Str	M	AL	AL	D.B.B.	Yo	Spl	Tim		Ros	L41HV	452	G	TX	106	Opt	31 1/2	40x2 1/2	50x3	1/2
4394	4.7	225	38.4	78	2400	L	G	A	7-2 1/2	13%	PC	Mo	Str	M	AL	AL	D.Fu	Yo	Spl	Shu		Ros	L41HV	578	G	TX	106	Opt	31 1/2	40x2 1/2	50x3	1/2
7339	4.7	225	38.4	78	2400	L	G	A	7-2 1/2	13%	PC	Mo	Str	M	AL	AL	D.Fu	Yo	Spl	Shu		Ros	L41HV	658	G	TX	106	Opt	31 1/2	40x2 1/2	50x3	1/2
8360	4.7	238	40.3	85	2400	L	G	A	7-3	15%	PC	Mo	Str	M	AL	AL	D.Fu	Yo	Spl	Shu		Ros	L41HV	768	H	TX	106	Opt	31 1/2	41x2 1/2	62 1/2 x 3	1/2
9299	4.4	335	51.2	115	2200	L	G	A	7-3	15%	PC	Mo	Str	M	AL	AL	D.Fu	Yo	Spl	Shu		Ros	L41HV	847	G	TX	118	Opt	31 1/2	41x2 1/2	62 1/2 x 3	1/2
1028	4.4	320	45.9	93	2200	L	G	A	7-3	15%	PC	Mo	Str	M	AL	AL	D.Fu	Yo	Spl	Shu		Ros	L41HV	893	H	TD	93 1/2	Opt	31 1/2	41x2 1/2	62 1/2 x 3	1/2
11478	4.4	318	51.2	103	2200	L	G	A	7-3	15%	PC	Mo	Str	M	AL	AL	D.Fu	Yo	Spl	Shu		Ros	L41HV	893	H	TD	92 1/2	Opt	31 1/2	41x2 1/2	62 1/2 x 3	1/2
12529	4.4	355	51.2	115	2200	L	G	A	7-3	15%	PC	Mo	Str	M	AL	AL	D.Fu	Yo	Spl	Shu		Ros	L41HV	893	H	TD	93 1/2	Opt	31 1/2	41x2 1/2	62 1/2 x 3	1/2
1314	5.2	213	33.7	75	2400	L	G	C	7-3	12%	FP	Ow	Str	M	DR	DR	dp.Lo	GO	Spl	Tim	31000	Ros	LO41DV	450	c	2I	88 1/2	60 1/2	34 1/2	40x2 1/2	54x3	1/2
1314	5.2	213	33.7	75	2400	L	G	C	7-3	12%	FP	Ow	Str	M	DR	DR	dp.Lo	GO	Spl	Tim	33000	Ros	LO41DV	450	c	2I	88 1/2	60 1/2	34 1/2	40x2 1/2	54x3	1/2
1358	5.2	240	38.4	84	2500	L	G	C	7-3	12%	FP	Ow	Str	M	DR	DR	dp.Lo	GO	Spl	Tim	33000	Ros	LO41DV	450	c	2I	88 1/2	60 1/2	34 1/2	40x2 1/2	54x3	1/2
1358	5.2	240	38.4	84	2500	L	G	C	7-3	12%	FP	Ow	Str	M	DR	DR	dp.Lo	GO	Spl	Tim	35000	Ros	LO41DV	519	c	2I	88 1/2	60 1/2	34 1/2	42x3	54x3	1/2
1358	5.2	240	38.4	84	2500	L	G	C	7-3	12%	FP	Ow	Str	M	DR	DR	dp.Lo	GO	Spl	Tim	35000	Ros	LO41DV	519	c	2I	88 1/2	60 1/2	34 1/2	42x3	54x3	1/2
1840	5.1	271	43.4	94	2500	L	G	C	7-3	14%	FP	Ow	Str	M	DR	DR	dp.Lo	GO	Spl	Tim	35000	Ros	LO41DV	519	c	FD	188 1/2	102 1/2	34 1/2	42x3	53x3	1/2
1940	5.1	271	43.4	94	2500	L	G	C	7-3	14%	FP	Ow	Str	M	DR	DR	dp.Lo	GO	Spl	Tim	35000	Ros	LO41DV	519	c	FD	189 1/2	102 1/2	34 1/2	42x3	53x3	1/2
2040	5.1	271	43.4	94	2500	L	G	C	7-3	14%	FP	Ow	Str	M	DR	DR	dp.Lo	GO	Spl	Tim	35000	Ros	LO41DV	519	c	FD	189 1/2	102 1/2	34 1/2	42x3	53x3	1/2
2143	5.1	309	48.6	101	2400	L	G	C	7-3	14%	FP	Ow	Str	M	DR	DR	dp.Lo	GO	Spl	Tim	27450	Ros	LO41DV	660	c	FD	115 1/2	71 1/2	34 1/2	41 1/2 x 3	54 1/2 x 4	1/2
2243	5.1	309	48.6	101	2400	L	G	C	7-3	14%	FP	Ow	Str	M	DR	DR	dp.Lo	GO	Spl	Tim	27450	Ros	LO41DV	660	c	FD	115 1/2	71 1/2	34 1/2	41 1/2 x 3	54 1/2 x 4	1/2
2340	5.1	271	43.4	94	2500	L	G	C	7-3	14%	FP	Ow	Str	M	DR	DR	dp.Lo	GO	Spl	Tim	26450	Ros	LO41DV	543	c	FD	181 1/2	129 1/2	34 1/2	42 1/2 x 3	53 1/2 x 4	1/2
2443	5.1	309	48.6	101	2400	L	G	C	7-3	14%	FP	Ow	Str	M	DR	DR	dp.Lo	GO	Spl	Tim	26450	Ros	LO41DV	543	c	FD	181 1/2	129 1/2	34 1/2	42 1/2 x 3	53 1/2 x 4	1/2
2543	5.1	309	48.6	101	2400	L	G	C	7-3	14%	FP	Ow	Str	M	DR	DR	dp.Lo	GO	Spl	Tim	26450	Ros	LO41DV	543	c	FD	181 1/2	129 1/2	34 1/2	42 1/2 x 3	53 1/2 x 4	1/2
2643	5.2	240	38.4	84	2500	L	G	C	7-3	12%	FP	Ow	Str	M	DR	DR	dp.Lo	GO	Spl	Tim	35000	Ros	LO41DV	450	c	2I	134	72 1/2	34 1/2	41 1/2 x 3	53x3	1/2
2840	5.1	271	43.4	94	2500	L	G	C	7-3	14%	FP	Ow	Str	M	DR	DR	dp.Lo	GO	Spl	Tim	35000	Ros	LO41DV	519	c	2I	176	102 1/2	34 1/2	41 1/2 x 3	53x3	1/2
2940	5.1	271	43.4	94	2500	L	G	C	7-3	14%	FP	Ow	Str	M	DR	DR	dp.Lo	GO	Spl	Tim	26450	Ros	LO41DV	543	c	FD	176	103 1/2	34 1/2	41 1/2 x 3	53x3	1/2
3040	5.1	271	43.4	94	2500	L	G	C	7-3	14%	FP	Ow	Str	M	DR	DR	dp.Lo	GO	Spl	Tim	26450	Ros	LO41DV	543	c	FD	176	103 1/2	34 1/2	41 1/2 x 3	53x3	1/2
3140	5.1	271	43.4	94	2500	L	G	C	7-3	14%	FP	Ow	Str	M	DR	DR	dp.Lo	GO	Spl	Tim	26450	Ros	LO41DV	543	c	FD	176	103 1/2	34 1/2	41 1/2 x 3	53x3	1/2
3240	5.1	271	43.4	94	2500	L	G	C	7-3	14%	FP	Ow	Str	M	DR	DR	dp.Lo	GO	Spl	Tim	26450	Ros	LO41DV	543	c	FD	176	103 1/2	34 1/2	41 1/2 x 3	53x3	1/2
3340	5.1	271	43.4	94	2500	L	G	C	7-3	14%	FP	Ow	Str	M	DR	DR	dp.Lo	GO	Spl	Tim	26450	Ros	LO41DV	543	c	FD	176	103 1/2	34 1/2	41 1/2 x 3	53x3	1/2
3443	5.1	309	48.6	101	2400	L	G	C	7-3	14%	FP	Ow	Str	M	DR	DR	dp.Lo	GO	Spl	Tim	26450	Ros	LO41DV	543	c	FD	176	103 1/2	34 1/2	41 1/2 x 3	53x3	1/2
3543	5.1	309	48.6	101	2400	L	G	C	7-3	14%	FP	Ow	Str	M	DR	DR	dp.Lo	GO	Spl	Tim	26450	Ros	LO41DV	543	c	FD	176	103 1/2	34 1/2	41 1/2 x 3	53x3	1/2
3643	5.1	309	48.6	101	2400	L	G	C	7-3	14%	FP	Ow	Str	M	DR	DR	dp.Lo	GO	Spl	Tim	26450	Ros	LO41DV	543	c	FD	176	103 1/2	34 1/2	41 1/2 x 3	53x3	1/2
3743	5.1	309	48.6	101	2400	L	G	C	7-3	14%	FP	Ow	Str	M	DR	DR	dp.Lo	GO	Spl	Tim	26450	Ros	LO41DV	543	c	FD	176	103 1/2	34 1/2	41 1/2 x 3	53x3	1/2
3843	5.1	309	48.6	101	2400	L	G	C	7-3	14%	FP	Ow	Str	M	DR	DR	dp.Lo	GO	Spl	Tim	26450	Ros	LO41DV	543	c	FD	176	103 1/2	34 1/2	41 1/2 x 3	53x3	1/2
3943	5.1	309	48.6	101	2400	L	G	C	7-3	14%	FP	Ow	Str	M	DR																	

Line Number	MAKE AND MODEL	Tonnage Rating	GENERAL (See Keynote)			TIRE SIZE		ENGINE		TRANSMISSION		REAR AXLE		FRAME							
			Chassis Price	Standard Wheelbase	Max. W. B. Furnished	Gross Vehicle Weight	Chassis Wt. (Stripped)	Front	Rear	Make and Model	No. of Cylinders, Bore and Stroke	Make and Model	Location, Forward Speeds, Aux. Location and Speeds	Make and Model	Gear and Type	Drive & Torque	GEAR RATIOS		Side Rail Dimensions	Type	
																	In High	In Low			
1	Dodge Bros. KC Com'l	Com'l	365	111	111	1775	B5.25/17	B5.25/17	Own	6-3 1/4 x 4 1/2	Own	U3	No	Own	SF	H 4.11	11.5	5x2 1/2	5x2 1/2	X	1201.5
2	KCL	Com'l	395	119	119	1805	B5.25/17	B5.25/17	Own	6-3 1/4 x 4 1/2	Own	U3	No	Own	SF	H 4.11	11.5	5x2 1/2	5x2 1/2	X	1201.5
3	KH20	14	490	131	161	2600	B6.00/20	P32x6	Own	6-3 1/4 x 4 1/2	Own	U4	Op	Own	SF	H 4.87	31.2	6x3 1/2	6x3 1/2	X	1201.5
4	K221	14	870	140	140	3470	B7.00/20	B7.00/20	Own	6-3 1/4 x 4 1/2	Own	U5	No	Own	SF	H 5.66	40.0	8x4 1/2	8x4 1/2	X	1201.5
5	KH-30	1 1/2-2	490	131	161	2600	B6.00/20	P32x6	Own	6-3 1/4 x 4 1/2	Own	U4	Op	Own	SF	H 5.43	34.7	6x3 1/2	6x3 1/2	X	1201.5
6	KD30	1 1/2-2	515	131	161	2612	B6.00/20	P32x6	Own	6-3 1/4 x 4 1/2	Own	U4	Op	Own	SF	H 5.43	34.7	6x3 1/2	6x3 1/2	X	1201.5
7	K32	1 1/2-3	545	136	161	2885	B6.00/20	P32x6	Own	6-3 1/4 x 4 1/2	Own	U4	Op	Own	SF	H 5.66	36.2	7x2 1/2	7x2 1/2	X	1201.5
8	KD32	1 1/2-3	560	136	161	2858	B6.00/20	P32x6	Own	6-3 1/4 x 4 1/2	Own	U4	Op	Own	SF	H 5.66	36.2	7x2 1/2	7x2 1/2	X	1201.5
9	K832	1 1/2-3	560	136	161	2896	B6.00/20	P32x6	Own	6-3 1/4 x 4 1/2	Own	U4	Op	Own	SF	H 5.66	36.2	7x2 1/2	7x2 1/2	X	1201.5
10	K35	1 1/2-4	870	140	190	3580	B6.50/20	DB6.50/20	Own	6-3 1/4 x 4 1/2	Own	U5	Op	Own	SF	H 6.33	44.8	8x4 1/2	8x4 1/2	X	1201.5
11	K45	2	870	140	190	3675	B7.00/20	DB7.00/20	Own	6-3 1/4 x 4 1/2	Own	U5	Op	Own	SF	H 6.33	44.8	8x4 1/2	8x4 1/2	X	1201.5
12	K60	3-5 1/2	1695	152	205	5650	B8.25/20	DB8.25/20	Own	6-3 1/4 x 4 1/2	Own	U5	Op	Tim	SF	H 7.4	56.1	10x3 1/2	10x3 1/2	X	1201.5
13	F40	3-5 1/2	1995	150	190	5173	B6.50/20	DB6.50/20	Own	6-3 1/4 x 4 1/2	Own	U4	Op	Own	SF	H 7.4	56.1	10x3 1/2	10x3 1/2	X	1201.5
14	K50	3-5 1/2	1995	150	190	5344	P32x6	DP32x6	Own	6-3 1/4 x 4 1/2	Own	U4	Op	Own	SF	H 6.37	43.7	9x4 1/2	9x4 1/2	X	1201.5
15	(5) F-61	3-5 1/2	2575	170	195	20000	5789	P32x6	Own	6-3 1/4 x 4 1/2	Own	U4	Op	Own	SF	H 7.12	48.8	10x3 1/2	10x3 1/2	X	1201.5
16	(5) K-71	3-5 1/2	2575	170	195	20000	5789	P32x6	Own	6-3 1/4 x 4 1/2	Own	U4	Op	Own	SF	H 7.12	48.8	10x3 1/2	10x3 1/2	X	1201.5
17	(5) G-80	4-8	2575	146	220	25000	6250	B8.25/20	Own	6-3 1/4 x 4 1/2	Own	U5	Op	Own	SF	H 7.71	62.7	10x4 1/2	10x4 1/2	X	1201.5
18	Duplex. S	S	3860	166	Op	18000	7640	B9.75/20	Bud K325	6-3 1/4 x 4 1/2	BL 2352	U5	No	Tim 65200	WF	H Opt	Opt	7x4 1/2 x 3 1/2	7x4 1/2 x 3 1/2	C	1930.4
19	SAC	S	4800	172	Op	22000	7135	B9.75/20	Bud K428	6-4 1/2 x 5 1/2	BL 3353	U5	No	Tim 75733	w/2F	R Opt	Opt	7x4 1/2 x 3 1/2	7x4 1/2 x 3 1/2	C	20428.4
20	SAK	S	5200	172	Op	27000	7300	B10.50/20	Bud K428	6-4 1/2 x 5 1/2	BL 3353	U5	No	Tim 76733	w/2F	R Opt	Opt	7x4 1/2 x 3 1/2	7x4 1/2 x 3 1/2	C	21229.4
21	K	K	5650	172	Op	27500	7525	B10.50/20	Bud L525	6-4 1/2 x 5 1/2	BL 5351	U5	No	Tim 76733	w/2F	R Opt	Opt	7x4 1/2 x 3 1/2	7x4 1/2 x 3 1/2	C	22525.4
22	Fisco. 135	1-1 1/2	1100	145	165	11000	3350	B6.50/20	Con 20C	6-3 1/4 x 4 1/2	Cla 200V7	U4	No	Cla B470	SF	H 5.66	40.9	6x3 1/2	6x3 1/2	TX	23248.5
23	235-O	2-2 1/2	2360	165	190	15000	6300	B8.25/20	Con E603	6-4 1/4 x 4 1/2	Cla R112	U5	No	Cla B642	SF	H 6.41	66.4	6x3 1/2	6x3 1/2	TX	23248.5
24	235-O	2-2 1/2	3200	165	190	15000	6300	B8.25/20	Con 20R-O	6-4 1/4 x 4 1/2	Cla R112	U5	Op	Cla B642	SF	H 6.41	66.4	6x3 1/2	6x3 1/2	TX	23248.5
25	335-S	3	3450	190	215	18000	7700	B9.00/20	Con 21R	6-4 1/4 x 4 1/2	Fu 5A530	U5	Op	Cla B805	SF	H 7.16	50.1	10x3 1/2	10x3 1/2	TX	23248.5
26	335-O	3	3700	190	215	18000	7700	B9.00/20	Con 21R-O	6-4 1/4 x 4 1/2	Fu 5A530	U5	Op	Cla B805	SF	H 7.16	50.1	10x3 1/2	10x3 1/2	TX	23248.5
27	Fageol. 106BK	1 1/2-2 1/2	1520	161	195	12200	5000	B6.50/20	Wau 6BK	6-3 1/4 x 4 1/2	WG T9	U4	No	Tim 53200H	BF	H 5.66	36.2	6x3 1/2	6x3 1/2	C	28282.5
28	135HF	2-3	2275	161	195	13400	5800	B7.50/20	Wau 6-90	6-3 1/4 x 4 1/2	BL 234	U4	No	Tim 54200H	BF	H 6.8	43.6	6x3 1/2	6x3 1/2	C	28282.5
29	135BK	2-3	2050	161	195	13400	5700	B7.50/20	Wau 6BK	6-3 1/4 x 4 1/2	WG T9	U4	No	Tim 54200H	BF	H 5.63	37.3	6x3 1/2	6x3 1/2	C	28282.5
30	250MK	2 1/2-4	2750	178	196	16300	6775	B8.25/20	Wau 6MK	6-4 1/4 x 4 1/2	BL 3341	U4	No	Tim 56200H	BF	H 6.2	39.1	8x3 1/2	8x3 1/2	T	30282.5
31	250RA	2 1/2-4	2900	178	196	19500	7000	B8.25/20	Wau 6MK	6-4 1/4 x 4 1/2	BL 3341	U4	No	Tim 58200H	BF	H 7.4	45.4	8x3 1/2	8x3 1/2	T	30282.5
32	250RA	2 1/2-4	2500	178	196	16300	6500	B8.25/20	Wau 6BK	6-3 1/4 x 4 1/2	WG T9	U4	No	Tim 56200H	BF	H 6.2	39.1	8x3 1/2	8x3 1/2	T	30282.5
33	300HP	3-5	4000	185	200	20700	7900	B9.00/20	Wau 6-110	6-4 1/4 x 4 1/2	BL 5241	U4	No	Tim 58200H	BF	H 7.8	56.8	8x3 1/2	8x3 1/2	T	34358.5
34	300RA	3-5	4275	185	200	25300	8400	B9.00/20	Wau 6-110	6-4 1/4 x 4 1/2	BL 5241	U4	No	Tim 56725H	WF	H 7.8	56.8	8x3 1/2	8x3 1/2	T	34358.5
35	(D) 300D	3-5	6000	189	204	20700	8600	B9.00/20	Wau 6D100	6-4 1/2 x 5 1/2	BL 5341	U4	No	Tim 58200H	WF	H 7.8	56.8	8x3 1/2	8x3 1/2	T	34358.5
36	(D) 300RA-D	3-5	6275	189	204	25300	9100	B9.00/20	Wau 6D100	6-4 1/2 x 5 1/2	BL 5341	U4	No	Tim 65725H	WF	H 7.8	56.8	8x3 1/2	8x3 1/2	T	34358.5
37	370HF	5-6	5600	182	200	25300	9950	B9.75/20	Wau 6-125	6-4 1/2 x 5 1/2	BL 5341	U4	A3	Tim 65725H	WF	H 5.7	120.7	7x4 1/2 x 3 1/2	7x4 1/2 x 3 1/2	C	37462.5
38	370SR	5-6	5600	182	200	25300	9750	B9.75/20	Wau 6SRK	6-4 1/2 x 5 1/2	BL 5341	U4	A3	Tim 65725H	WF	H 5.7	120.7	7x4 1/2 x 3 1/2	7x4 1/2 x 3 1/2	C	37462.5
39	370RA	5-6	5850	182	200	31000	10200	B9.75/20	Wau 6-125	6-4 1/2 x 5 1/2	BL 5341	U4	A3	Tim 66720DH	WF	H 5.5	116.7	7x4 1/2 x 3 1/2	7x4 1/2 x 3 1/2	C	39117.4
40	(D) 370D	5-6	7600	182	200	25300	11050	B9.75/20	Wau 6D125	6-4 1/2 x 5 1/2	BL 7341	U4	A3	Tim 65725H	WF	H 5.7	120.7	7x4 1/2 x 3 1/2	7x4 1/2 x 3 1/2	C	40462.5
41	(D) 370RA-D	5-6	7850	182	200	31000	11300	B9.75/20	Wau 6D125	6-4 1/2 x 5 1/2	BL 7341	U4	A3	Tim 66720DH	WF	H 5.5	116.7	7x4 1/2 x 3 1/2	7x4 1/2 x 3 1/2	C	41585.1
42	470HF	6-7	6100	182	200	33500	10350	B9.75/20	Wau 6-125	6-4 1/2 x 5 1/2	BL 5341	U4	A3	Tim 66720DH	WF	H 5.5	116.7	7x4 1/2 x 3 1/2	7x4 1/2 x 3 1/2	C	42585.1
43	(D) 470D	6-7	8100	182	200	33500	11450	B9.75/20	Wau 6D125	6-4 1/2 x 5 1/2	BL 7341	U4	A3	Tim 66720DH	WF	H 5.5	116.7	7x4 1/2 x 3 1/2	7x4 1/2 x 3 1/2	C	43462.5
44	685RB	8-10	7500	174	174	42000	12750	B10.50/24	Wau 6RB	6-5 1/2 x 5 1/2	BL 7341	U4	A3	Tim 66720H	WF	H 6.54	144.8	8x4 1/2 x 3 1/2	8x4 1/2 x 3 1/2	C	44355.1
45	Federal. DM	15-1 1/2	975	120	120	8000	3050	B6.00/20	Con W10	4-3 1/4 x 4 1/2	WG T9	U4	Op	Cla B374	SF						

Line Number	ENGINE DETAILS										Type																		
	Displacement	Comp. Ratio	Torque lb. ft.	A.M.A. Rated H.P.	Max. Brake H.P. at R.P.M.	MAIN BEARINGS		Valve Argmt.	Camshaft Drive	Piston Material																			
						Number and Diameter	Length																						
ENGINE SYSTEM TYPE																													
FUEL SYST.																													
ELEC-TRICAL																													
FRONT AXLE																													
BRAKES																													
BODY MOUNT-ING DATA																													
SPRINGS																													
SERVICE																													
Hand Location																													
Cab to Rear																													
Cab to Front																													
Width of Frame																													
Front																													
Rear																													
Auxiliary Type																													
Governor Make																													
Carburetor Make																													
Fuel Feed																													
Ignition Sys-tem Make																													
Generator, Starter Make																													
Clutch Type and Make																													
Radiator Make																													
Universal Make																													
Make and Model																													
Steering Gear Make																													
Make Location																													
Lining Area																													
Brake Material																													
Cab to Rear																													
Cab to Front																													
Width of Frame																													
Front																													
Rear																													
Auxiliary Type																													
1201	5.8	138	23.4	72-3000	L	A 4-2 1/2	5 1/2	CC	No	Car	M	DR	DR	P.B.B	Fe	Own	Own	Own	O41H	111	TX	52 1/2	25 1/2	44 1/2	36 1/2	1 1/2	53 1/2	1 1/2	N
201	5.8	138	23.4	77-3600	L	A 4-2 1/2	5 1/2	CC	No	Car	M	DR	DR	P.B.B	Fe	Own	Own	Own	O41H	176	TX	94 1/2	46 1/2	33 1/2	36 1/2	1 1/2	48 1/2	1 1/2	N
201	5.8	138	23.4	77-3600	L	A 4-2 1/2	5 1/2	CC	No	Car	M	DR	DR	P.B.B	Fe	Own	Own	Own	O41H	176	TX	94 1/2	46 1/2	33 1/2	36 1/2	1 1/2	48 1/2	1 1/2	N
242	5.8	170	27.3	85-3200	L	A 4-2 1/2	5 1/2	CC	No	Car	M	DR	DR	P.B.B	Fe	Own	Own	Own	O41H	232	TX	94 1/2	55 1/2	34 1/2	36 1/2	1 1/2	48 1/2	1 1/2	N
242	5.8	170	27.3	85-3200	L	A 4-2 1/2	5 1/2	CC	No	Car	M	DR	DR	P.B.B	Fe	Own	Own	Own	O41H	232	TX	94 1/2	55 1/2	34 1/2	36 1/2	1 1/2	48 1/2	1 1/2	N
217	5.6	150	25.3	70-3000	L	A 4-2 1/2	5 1/2	CC	No	Car	M	DR	DR	P.B.B	Fe	Own	Own	Own	O41H	176	TX	94 1/2	46 1/2	33 1/2	36 1/2	1 1/2	48 1/2	1 1/2	N
201	5.8	138	23.4	72-3000	L	A 4-2 1/2	5 1/2	CC	No	Car	M	DR	DR	P.B.B	Fe	Own	Own	Own	O41H	176	TX	85 1/2	51 1/2	34 1/2	36 1/2	1 1/2	48 1/2	1 1/2	N
10242	5.4	170	27.3	85-3200	L	A 4-2 1/2	5 1/2	CC	No	Car	M	DR	DR	P.B.B	Fe	Own	Own	Own	O41H	232	TX	85 1/2	51 1/2	34 1/2	36 1/2	1 1/2	48 1/2	1 1/2	N
1242	5.4	170	27.3	85-3200	L	A 4-2 1/2	5 1/2	CC	No	Car	M	DR	DR	P.B.B	Fe	Own	Own	Own	O41H	232	TX	91 1/2	55 1/2	34 1/2	36 1/2	1 1/2	48 1/2	1 1/2	N
1242	5.4	170	27.3	85-3200	L	A 4-2 1/2	5 1/2	CC	No	Car	M	DR	DR	P.B.B	Fe	Own	Own	Own	O41H	232	TX	91 1/2	55 1/2	34 1/2	36 1/2	1 1/2	48 1/2	1 1/2	N
1309	4.7	200	31.5	96-3000	L	G 7-2 1/2	11 1/2	CC	Mo	Zen	M	AL	AL	P.B.B	Lo	Own	Own	Own	O41H	422	TX	100 1/2	66 1/2	34 1/2	36 1/2	1 1/2	52 1/2	1 1/2	N
1309	4.7	200	31.5	96-3000	L	G 7-2 1/2	11 1/2	CC	Mo	Zen	M	AL	AL	P.B.B	Lo	Own	Own	Own	O41H	422	TX	100 1/2	66 1/2	34 1/2	36 1/2	1 1/2	52 1/2	1 1/2	N
1309	4.7	200	31.5	96-3000	L	G 7-2 1/2	11 1/2	CC	Mo	Zen	M	AL	AL	P.B.B	Lo	Own	Own	Own	O41H	422	TX	100 1/2	66 1/2	34 1/2	36 1/2	1 1/2	52 1/2	1 1/2	N
1309	4.7	200	31.5	96-3000	L	G 7-2 1/2	11 1/2	CC	Mo	Zen	M	AL	AL	P.B.B	Lo	Own	Own	Own	O41H	422	TX	100 1/2	66 1/2	34 1/2	36 1/2	1 1/2	52 1/2	1 1/2	N
1309	4.7	200	31.5	96-3000	L	G 7-2 1/2	11 1/2	CC	Mo	Zen	M	AL	AL	P.B.B	Lo	Own	Own	Own	O41H	422	TX	100 1/2	66 1/2	34 1/2	36 1/2	1 1/2	52 1/2	1 1/2	N
1309	4.7	200	31.5	96-3000	L	G 7-2 1/2	11 1/2	CC	Mo	Zen	M	AL	AL	P.B.B	Lo	Own	Own	Own	O41H	422	TX	100 1/2	66 1/2	34 1/2	36 1/2	1 1/2	52 1/2	1 1/2	N
1309	4.7	200	31.5	96-3000	L	G 7-2 1/2	11 1/2	CC	Mo	Zen	M	AL	AL	P.B.B	Lo	Own	Own	Own	O41H	422	TX	100 1/2	66 1/2	34 1/2	36 1/2	1 1/2	52 1/2	1 1/2	N
1309	4.7	200	31.5	96-3000	L	G 7-2 1/2	11 1/2	CC	Mo	Zen	M	AL	AL	P.B.B	Lo	Own	Own	Own	O41H	422	TX	100 1/2	66 1/2	34 1/2	36 1/2	1 1/2	52 1/2	1 1/2	N
1309	4.7	200	31.5	96-3000	L	G 7-2 1/2	11 1/2	CC	Mo	Zen	M	AL	AL	P.B.B	Lo	Own	Own	Own	O41H	422	TX	100 1/2	66 1/2	34 1/2	36 1/2	1 1/2	52 1/2	1 1/2	N
1309	4.7	200	31.5	96-3000	L	G 7-2 1/2	11 1/2	CC	Mo	Zen	M	AL	AL	P.B.B	Lo	Own	Own	Own	O41H	422	TX	100 1/2	66 1/2	34 1/2	36 1/2	1 1/2	52 1/2	1 1/2	N
1309	4.7	200	31.5	96-3000	L	G 7-2 1/2	11 1/2	CC	Mo	Zen	M	AL	AL	P.B.B	Lo	Own	Own	Own	O41H	422	TX	100 1/2	66 1/2	34 1/2	36 1/2	1 1/2	52 1/2	1 1/2	N
1309	4.7	200	31.5	96-3000	L	G 7-2 1/2	11 1/2	CC	Mo	Zen	M	AL	AL	P.B.B	Lo	Own	Own	Own	O41H	422	TX	100 1/2	66 1/2	34 1/2	36 1/2	1 1/2	52 1/2	1 1/2	N
1309	4.7	200	31.5	96-3000	L	G 7-2 1/2	11 1/2	CC	Mo	Zen	M	AL	AL	P.B.B	Lo	Own	Own	Own	O41H	422	TX	100 1/2	66 1/2	34 1/2	36 1/2	1 1/2	52 1/2	1 1/2	N
1309	4.7	200	31.5	96-3000	L	G 7-2 1/2	11 1/2	CC	Mo	Zen	M	AL	AL	P.B.B	Lo	Own	Own	Own	O41H	422	TX	100 1/2	66 1/2	34 1/2	36 1/2	1 1/2	52 1/2	1 1/2	N
1309	4.7	200	31.5	96-3000	L	G 7-2 1/2	11 1/2	CC	Mo	Zen	M	AL	AL	P.B.B	Lo	Own	Own	Own	O41H	422	TX	100 1/2	66 1/2	34 1/2	36 1/2	1 1/2	52 1/2	1 1/2	N
1309	4.7	200	31.5	96-3000	L	G 7-2 1/2	11 1/2	CC	Mo	Zen	M	AL	AL	P.B.B	Lo	Own	Own	Own	O41H	422	TX	100 1/2	66 1/2	34 1/2	36 1/2	1 1/2	52 1/2	1 1/2	N
1309	4.7	200	31.5	96-3000	L	G 7-2 1/2	11 1/2	CC	Mo	Zen	M	AL	AL	P.B.B	Lo	Own	Own	Own	O41H	422	TX	100 1/2	66 1/2	34 1/2	36 1/2	1 1/2	52 1/2	1 1/2	N
1309	4.7	200	31.5	96-3000	L	G 7-2 1/2	11 1/2	CC	Mo	Zen	M	AL	AL	P.B.B	Lo	Own	Own	Own	O41H	422	TX	100 1/2	66 1/2	34 1/2	36 1/2	1 1/2	52 1/2	1 1/2	N
1309	4.7	200	31.5	96-3000	L	G 7-2 1/2	11 1/2	CC	Mo	Zen	M	AL	AL	P.B.B	Lo	Own	Own	Own	O41H	422	TX	100 1/2	66 1/2	34 1/2	36 1/2	1 1/2	52 1/2	1 1/2	N
1309	4.7	200	31.5	96-3000	L	G 7-2 1/2	11 1/2	CC	Mo	Zen	M	AL	AL	P.B.B	Lo	Own	Own	Own	O41H	422	TX	100 1/2	66 1/2	34 1/2	36 1/2	1 1/2	52 1/2	1 1/2	N
1309	4.7	200	31.5	96-3000	L	G 7-2 1/2	11 1/2	CC	Mo	Zen	M	AL	AL	P.B.B	Lo	Own	Own	Own	O41H	422	TX	100 1/2	66 1/2	34 1/2	36 1/2	1 1/2	52 1/2	1 1/2	N
1309	4.7	200	31.5	96-3000	L	G 7-2 1/2	11 1/2	CC	Mo	Zen	M	AL	AL	P.B.B	Lo	Own	Own	Own	O41H	422	TX	100 1/2	66 1/2	34 1/2	36 1/2	1 1/2	52 1/2	1 1/2	N
1309	4.7	200	31.5	96-3000	L	G 7-2 1/2	11 1/2	CC	Mo	Zen	M	AL	AL	P.B.B	Lo	Own	Own	Own	O41H	422	TX	100 1/2	66 1/2	34 1/2	36 1/2	1 1/2	52 1/2	1 1/2	N
1309	4.7	200	31.5	96-3000	L	G 7-2 1/2	11 1/2	CC	Mo	Zen	M	AL	AL	P.B.B	Lo	Own	Own	Own	O41H	422	TX	100 1/2	66 1/2	34 1/2	36 1/2	1 1/2	52 1/2	1 1/2	N
1309	4.7	200	31.5	96-3000	L	G 7-2 1/2	11 1/2	CC	Mo	Zen	M	AL	AL	P.B.B	Lo	Own	Own	Own	O41H	422	TX	100 1/2	66 1/2	34 1/2	36 1/2	1 1/2	52 1/2	1 1/2	N
1309	4.7	200	31.5	96-3000	L	G 7-2 1/2	11 1/2	CC	Mo	Zen	M	AL	AL	P.B.B	Lo	Own	Own	Own	O41H	422	TX	100 1/2	66 1/2	34 1/2	36 1/2	1 1/2	52 1/2	1 1/2	N
1309	4.7	200	31.5	96-3000	L	G 7-2 1/2	11 1/2	CC	Mo	Zen	M	AL	AL	P.B.B	Lo	Own	Own	Own	O41H	422	TX	100 1/2	66 1/2	34 1/2	36 1/2	1 1/2	52 1/2	1 1/2	N
1309	4.7	200	31.5	96-3000	L	G 7-2 1/2	11 1/2	CC	Mo	Zen	M	AL	AL	P.B.B	Lo	Own	Own	Own	O41H	422	TX	100 1/2	66 1/2	34 1/2	36 1/2	1 1/2	52 1/2	1 1/2	N
1309	4.7	200	31.5	96-3000	L	G 7-2 1/2	11 1/2	CC	Mo	Zen	M	AL	AL	P.B.B	Lo	Own	Own	Own	O41H	422	TX	100 1/2	66 1/2	34 1/2	36 1/2	1 1/2	52 1/2	1 1/2	N
1309	4.7	200	31.5	96-3000	L	G 7-2 1/2	11 1/2	CC	Mo	Zen	M	AL	AL	P.B.B	Lo	Own	Own	Own	O41H	422	TX	100 1/2	66 1/2	34 1/2	36 1/2	1 1/2	52 1/2	1 1/2	N
1309	4.7	200	31.5	96-3000	L	G 7-2 1/2	11 1/2	CC	Mo	Zen	M	AL	AL	P.B.B	Lo	Own	Own	Own	O41H	422	TX	100 1/2	66 1/2	34 1/2	36 1/2	1 1/2	52 1/2	1 1/2	N
1309	4.7	200	31.5	96-3000	L	G 7-2 1/2	11 1/2	CC	Mo	Zen	M	AL	AL	P.B.B	Lo	Own	Own	Own	O41H	422	TX	100 1/2	66 1/2	34 1/2	36 1/2	1 1/2	52 1/2	1 1/2	N
1309	4.7	200	31.5	96-3000	L	G 7-2 1/2	11 1/2	CC	Mo	Zen	M	AL	AL	P.B.B	Lo	Own	Own	Own	O41H	422	TX	100 1/2	66 1/2	34 1/2	36 1/2	1 1/2	52 1/2	1 1/2	N
1309	4.7	200	31.5	96-3000	L	G 7-2 1/2	11 1/2	CC	Mo	Zen	M	AL	AL	P.B.B	Lo	Own	Own	Own	O41H	422	TX	100 1/2	66 1/2	34 1/2	36 1/2	1 1/2	52 1/2	1 1/2	N
1309	4.7	200	31.5	96-3000	L	G 7-2 1/2	11 1/2	CC	Mo	Zen	M	AL	AL	P.B.B	Lo	Own	Own	Own	O41H	422	TX	100 1/2	66 1/2	34 1/2	36 1/2	1 1/2	52 1/2	1 1/2	N
1309	4.7	200	31.5	96-3000	L	G 7-2 1/2	11 1/2	CC	Mo	Zen	M	AL	AL	P.B.B	Lo	Own	Own	Own	O41H	422	TX	100 1/2	66 1/2	34 1/2	36 1/2	1 1/2	52 1/2	1 1/2	N
1309	4.7	200	31.5	96-3000	L	G 7-2 1/2	11 1/2	CC	Mo	Zen	M	AL	AL	P.B.B	Lo	Own	Own	Own	O41H	422	TX	100 1/2	66 1/2	34 1/2	36 1/2	1 1/2	52 1/2	1 1/2	N
1309	4.7	200	31.5	96-300																									

Line Number	MAKE AND MODEL	GENERAL (See Keynote)			TIRE SIZE		ENGINE		TRANSMISSION		REAR AXLE			FRAME					
		Tonnage Rating	Chassis Price	Standard Wheelbase	Chassis Wt. (Stripped)	Front	Rear	Make and Model	No. of Cylinders, Bore and Stroke	Make and Model	Location, Forward Speeds	Aux. Location and Speeds	Make and Model	Gear and Type	Drive & Torque	Gear Ratios	Side Rail Dimensions	Type	
1	Hahn (Conc'd)	250 3	2625	148	Op	22000	6500 B9.00/20	DB9.00/20	Wau 6MZ	6-4 1/4 x 4 1/4	Fu 5A380	U 5	No	Tim 56200H	SF	H 5.14	32.9	6x2 1/4 x 1 1/4	P
2	300 3 1/2	2820	150	Op	22000	6700 B9.00/20	DB9.00/20	Wau 6MZ	6-4 1/4 x 4 1/4	Fu 5A380	U 5	No	Tim 58200H	SF	H 6.18	48.4	7x3 1/4 x 1 1/4	P	
3	HD-2	3010	154	Op	25000	7600 B9.75/20	DB9.75/20	Wau 6MZ	6-4 1/4 x 4 1/4	Fu 5A380	U 5	No	Tim 58200H	SF	H 6.18	48.4	7x3 1/4 x 1 1/4	P	
4	HD-3	3375	162	Op	26000	9050 B9.75/20	DB9.75/20	Wau 6MZ	6-4 1/4 x 4 1/4	Fu 5A380	U 5	No	Tim 58200H	SF	H 7.2	51.3	8x3 1/4 x 1 1/4	P	
5	440 4-6	4700	165	Op	26000	9200 B9.75/20	DB9.75/20	Wau 6SRK	6-4 1/4 x 5 1/4	Fu 5A530	U 5	Op	Wls 1337H	2F	R 7.2	51.3	10x3 1/4 x 1 1/4	P	
6	Hendrickson	158 2 1/2	2600	Op	Op	15000	6000 B8.25/20	DB8.25/20	Wau 6-90	6-3 1/4 x 4 1/4	Fu 5A38	U 5	No	Tim 56200H	SF	R Opt	Opt	8x3 1/4 x 1 1/4	C
7	168A 2 1/2	1760	99	210	15000	4800 B8.25/20	DB8.25/20	Wau 6BK	6-3 1/4 x 4 1/4	Cla R116	U 5	No	Cla B613	SF	H Opt	Opt	8x3 1/4 x 1 1/4	C	
8	198 3	3100	Op	Op	19000	6500 B9.00/20	DB9.00/20	Wau 6-110	6-4 1/4 x 4 1/4	Fu 5A38	U 5	No	Tim 58200H	SF	R Opt	Opt	8x3 1/4 x 1 1/4	C	
9	248 4	3600	Op	Op	24000	8200 B9.75/20	DB9.75/20	Wau 6-110	6-4 1/4 x 4 1/4	Fu 5A38	U 5	No	Tim 58200H	SF	R Opt	Opt	8x3 1/4 x 1 1/4	C	
10	328 5	4200	Op	Op	32000	10600 B9.75/20	DB9.75/20	Wau 125	6-4 1/4 x 5 1/4	Fu 5A53	U 5	No	Tim 76733H	w/2	R Opt	Opt	8x3 1/4 x 1 1/4	P	
11	Hug	12D 1 1/4	1455	118	124	12000	4550 B7.50/20	DB7.50/20	Wau 6BL	6-3 1/4 x 4 1/4	Fu 5B290	U 5	No	B642	SF	H 5.50	43.7	8x3 1/4 x 1 1/4	T
12	15A 1 1/4-2 1/4	985	136	156	10500	3750 B5.50/20	DB5.50/20	Wau 6BL	6-3 1/4 x 4 1/4	Cla B360	U 4	No	Cla B377	SF	H 6.37	41.8	8x3 1/4 x 1 1/4	T	
13	15D 1 1/4-2 1/4	1025	141	200	15000	3750 B5.50/20	DB5.50/20	Wau 6BL	6-3 1/4 x 4 1/4	Cla B360	U 4	No	Cla B470	SF	H 6.37	41.8	8x3 1/4 x 1 1/4	T	
14	15T 1 1/4-2 1/4	1025	141	200	15000	3750 B5.50/20	DB5.50/20	Wau 6BL	6-3 1/4 x 4 1/4	Cla B360	U 4	No	Cla B470	SF	H 6.37	41.8	8x3 1/4 x 1 1/4	T	
15	19A 2 1/2-3	1375	136	156	18000	4578 B7.00/20	DB7.00/20	Wau 6BK	6-3 1/4 x 4 1/4	Fu 5B290	U 5	No	Cla B611	SF	H 4.90	39.0	8x3 1/4 x 1 1/4	T	
16	19D 2 1/2-3	1465	118	130	14500	4578 B7.50/20	DB7.50/20	Wau 6BK	6-3 1/4 x 4 1/4	Fu 5B290	U 5	No	Cla B642	SF	H 5.50	43.7	8x3 1/4 x 1 1/4	T	
17	19T 2 1/2-3	1465	130	150	26000	4578 B7.50/20	DB7.50/20	Wau 6BK	6-3 1/4 x 4 1/4	Fu 5B290	U 5	No	Cla B642	SF	H 5.50	43.7	8x3 1/4 x 1 1/4	T	
18	23S 2 1/2-3	2320	146	201	16400	6400 B8.25/20	DB8.25/20	Bud H298	6-3 1/4 x 4 1/4	Fu MLU	U 4	No	Cla B642	SF	H 6.42	40.8	8x3 1/4 x 1 1/4	T	
19	23A 2 1/2-3	2785	137	188	28000	7350 B9.75/20	DB9.75/20	Bud H298	6-3 1/4 x 4 1/4	Fu 5A380	U 5	No	Cla B611	SF	H 5.02	49.0	8x3 1/4 x 1 1/4	T	
20	23T 2 1/2-3	1830	130	150	28000	5120 B7.50/20	DB7.50/20	Bud H298	6-3 1/4 x 4 1/4	Fu 5B290	U 5	No	Cla B642	SF	H 5.66	48.8	8x3 1/4 x 1 1/4	T	
21	41S 3-6	5070	158	158	18165	8500 B9.75/20	B12.75/20	Bud K428	6-4 1/4 x 4 1/4	Fu MRUAY	A 4	A 3	Wls 1237H	2F	H 8.95	119.8	8x3 1/4 x 1 1/4	T	
22	42A 3-6	2350	160	195	22000	6800 B9.00/20	DB9.00/20	Bud K369	6-4 1/4 x 4 1/4	Fu 5A380	U 5	No	Cla B805	2F	H 5.63	50.1	8x3 1/4 x 1 1/4	T	
23	42T 3-6	2615	137	160	32000	7000 B9.00/20	DB9.00/20	Bud K369	6-4 1/4 x 4 1/4	Fu 5A380	U 5	No	Wls 72000L	2F	H 5.71	50.8	8x3 1/4 x 1 1/4	T	
24	43A 4-8	3250	160	195	26000	7050 B9.75/20	DB9.75/20	Bud K428	6-4 1/4 x 4 1/4	Fu 5A530	U 5	No	Wls 72000L	2F	H 5.77	51.2	8x3 1/4 x 1 1/4	T	
25	43B 4-8	3250	160	195	26000	7050 B9.75/20	DB9.75/20	Bud K428	6-4 1/4 x 4 1/4	Fu 5A530	U 5	No	Wls 72000L	2F	H 5.77	51.2	8x3 1/4 x 1 1/4	T	
26	43C 4-8	3495	122	122	18000	7370 B9.00/20	DB9.00/20	Bud K369	6-4 1/4 x 4 1/4	Fu 5A380	U 5	No	Wls 72000Q	2F	H 6.59	58.8	7x3 1/4 x 1 1/4	T	
27	70 4	4360	128	128	23000	8156 B9.75/20	DB9.75/20	Bud K428	6-4 1/4 x 4 1/4	Fu MHOG	A 8	No	Wls 1337BQ	2F	H 6.44	75.8	7x3 1/4 x 1 1/4	T	
28	87Q 5	4985	144	144	28200	8300 B10.50/20	DB10.50/20	Bud K428	6-4 1/4 x 4 1/4	Fu 5A530	U 5	A 2	Wls 1737BQ	2F	H 7.27	134.8	8x4 1/4 x 1 1/4	T	
29	43L 5	4525	146	201	28105	8905 B9.75/20	DB9.75/20	Bud L525	6-4 1/4 x 4 1/4	Fu 5A530	U 5	A 2	Wls 1737KW	2F	H 5.07	45.0	8x4 1/4 x 1 1/4	T	
30	97L 7 1/2	5925	144	144	35620	10810 B10.50/20	DB10.50/20	Bud L525	6-4 1/4 x 4 1/4	Fu 5A530	U 5	A 2	Wls 19027	2F	H 8.84	163.8	8x4 1/4 x 1 1/4	T	
31	Indiana	85 1 1/4	1025	141	188	10000	3950 B6.50/20	DB6.50/20	Her JXB	6-3 1/4 x 4 1/4	BL 124	U 4	No	Tim 53200H	SF	H 5.66	35.1	7x2 1/4 x 1 1/4	T
32	86 1 1/4	695	131	180	11000	3650 B6.00/20	B6.00/20	Her JXB	6-3 1/4 x 4 1/4	WG T9	U 4	No	Spl 100	SF	H 5.63	36.0	7x2 1/4 x 1 1/4	T	
33	86T 1 1/4	795	131	155	14000	4000 B6.00/20	B6.00/20	Her JXB	6-3 1/4 x 4 1/4	WG T9	U 4	No	Tim 54413A1	SF	H 6.8	43.5	7x2 1/4 x 1 1/4	T	
34	95 2	1195	141	186	12000	4400 P32x6	DP32x6	Her JXC	6-3 1/4 x 4 1/4	BL 224	U 4	No	Tim 54300H	SF	H 5.85	36.2	7x2 1/4 x 1 1/4	T	
35	95DR 2 1/2	2300	156	212	17000	6300 B8.25/20	DB8.25/20	Her JXC	6-3 1/4 x 4 1/4	BL 224	U 4	No	Tim 54300H	SF	H 5.85	36.2	7x2 1/4 x 1 1/4	T	
36	17ADR 3	2475	156	212	18000	6350 B8.25/20	DB8.25/20	Her WXC	6-4 1/4 x 4 1/4	BL 3341	U 4	Op	Wls 58205H	SF	H 6.83	43.0	8x3 1/4 x 1 1/4	T	
37	17 3	2450	170	224	18000	6600 B8.25/20	DB8.25/20	Her YXC	6-4 1/4 x 4 1/4	BL 3341	U 4	Op	Wls 58205H	SF	H 6.83	43.0	8x3 1/4 x 1 1/4	T	
38	17DR 3 1/4	2675	170	224	19000	6700 B8.25/20	DB8.25/20	Her YXC	6-4 1/4 x 4 1/4	BL 3341	U 4	Op	Wls 72000L	2F	R 6.36	40.0	8x3 1/4 x 1 1/4	T	
39	19DR 3 1/4	3400	170	224	22000	7600 B9.00/20	DB9.00/20	Her YXC	6-4 1/4 x 4 1/4	BL 5241	U 4	Op	Wls 1337H	2F	R 7.27	52.3	8x3 1/4 x 1 1/4	T	
40	20DR 3 1/2	4250	170	224	22000	8100 B9.00/20	DB9.00/20	Her YXC	6-4 1/4 x 4 1/4	BL 5241	U 4	Op	Wls 1337H	2F	R 7.27	52.3	8x3 1/4 x 1 1/4	T	
41	43DR 4	4300	170	224	25000	8000 B9.75/20	DB9.75/20	Her RXB	6-4 1/4 x 4 1/4	BL 524	U 4	Op	Wls 1627KH	2F	R 7.16	50.7	8x3 1/4 x 1 1/4	T	
42	45DR 5	4800	170	224	25000	8700 B9.75/20	DB9.75/20	Her RXC	6-4 1/4 x 4 1/4	BL 534	U 4	Op	Wls 1737H	2F	R 7.14	45.4	8x3 1/4 x 1 1/4	T	
43	47DR 5-7	7500	188	234	28000	10500 B10.50/20	DB10.50/20	Cum 6HDie	6-4 1/4 x 6	BL 7351	A 5	No	Wls 1910W	2F	R 7.16	45.0	8x3 1/4 x 1 1/4	T	
44	49DR 5-7	7350	188	234	28000	10500 B10.50/20	DB10.50/20	Her DLXBL	6-5x6	BL 7351	A 5	No	Wls 1910W	2F	R 7.16	45.0	8x3 1/4 x 1 1/4	T	
45	International	C1 1/4	400	113	125	4400	2220 B6.00/16	B6.00/16	Own HD	6-3 1/4 x 4 1/4	Own HDS	U 3	No	Own HDR-55	SF	H 4.18	12.8	5x2 1/4 x 1 1/4	T
46	M2 1/4	850	118	118	7100	3215 B6.50/20	B6.50/20	Wau XAH	4-3 1/4 x 4 1/4	Own H4A	U 4	No	Own 713	SF	H 6.17	39.9	5x2 1/4 x 1 1/4	T	
47	(S) A2 1/4	575	136	160	8000	2930 B6.00/20	B6.00/20	Wau XAH	4-3 1/4 x 4 1/4	Own H4A	U 4	No	Own 708	SF	H 5.29	33.8	5x2 1/4 x 1 1/4	T	
48	B3 1/4	695	136	175	10100	3530 P30x5	P32x6	Wau XAH	4-3 1/4 x 4 1/4	Own H4A	U 4	No	Own 720	SF	H 6.17	39.9	5x2 1/4 x 1 1/4	T	
49	(S) C20 1/4	575	133	157	8300	3089 B6.00/20	B6.00/20	Wau XAH	4-3 1/4 x 4 1/4	Own H4A	U 4	No	Own 708	SF	H 6.17	39.9	5x2 1/4 x 1 1/4	T	
50	C30 1/4	735	136	157	10400	3210 P30x5	P32x6	Wau XAH	4-3 1/4 x 4 1/4	Own H4A	U 4	No	Own 720	SF	H 6.17	39.9	5x2 1/4 x 1 1/4	T	
51	A3 1/2	775	136	157	10400	3210 P30x5	P32x6	Wau XAH	4-3 1/4 x 4 1/4	Own H4A	U 4	No	Own 720	SF	H 6.17	39.9	5x2 1/4 x 1 1/4	T	
52	B4 2	1045	145	185	13000	4230 B6.50/20	DB6.50/20	Own FBB	6-3 1/4 x 4 1/4	Own H4A	U 4	Op	Own 750	SF	H 6.50	41.8	8x3 1/4 x 1 1/4	T	
53	A4 2	1625	145	185	15000	5706 P32x6	DP32x6	Own FBB	6-3 1/4 x 4 1/4	Own H5	U 5	Op	Own 902	SF	H 6.50	47.8	8x3 1/4 x 1 1/4	T	
54	C40 2-3	1145	145	185	13000	4386 B6.50/20	DB6.50/20	Own FBB	6-3 1/4 x 4 1/4	Own F5	U 5	Op	Own 750	SF	H 6.5	49.8	8x3 1/4 x 1 1/4	T	
55	A5 3	2100	140	190	19100	6238 P34x7	DP34x7	Own FBB	6-3 1/4 x 4 1/4	Own H5	U 5	Op	Own 1002	SF	H 7.16	52.3	8x3 1/4 x 1 1/4	T	
56	A6 3	2100	140	190	19100	6238 P34x7	DP34x7	Own FBB	6-3 1/4 x 4 1/4	Own H5	U 5	Op	Own 1002	SF	H 7.16	52.3	8x3 1/4 x 1 1/4	T	
57	C50 3	1795	145	185	16100	5550 P32x6	DP32x6	Own FBB	6-3 1/4 x 4 1/4	Own H5	U 5	Op	Own 904	SF	H 6.5	49.8	8x3 1/4 x 1 1/4	T	
58	W2 3 1/4	3300	130	200	24000	8250 P36x8	DP36x8	HS 151	4-4 1/4 x 5 1/4	Own H6	U 5	Op	Own 1200	2F	H 8.40	74.2	7x3 1/4 x 1 1/4	B	
59	C55 3 1/4-4 1/2	2450	140	210	21500	6606 P34x7	DP34x7	Own FBB	6-3 1/4 x 4 1/4	Own H5	U 5	Op	Own 1005	SF	H 7.2	52.9	8x3 1/4 x 1 1/4	T	
60	C60 4-5	2575	140	210	21500	66													

Line Number	ENGINE DETAILS										MAIN BEARINGS	Oiling System Type	Governor Make	FUEL SYST.			ELEC-TRICAL	Clutch Type and Make	Radiator Make	Universal Make	FRONT AXLE Make and Model	Steering Gear Make	BRAKES			BODY MOUNT-ING DATA				SPRINGS		Auxiliary Type		
	Displacement	Comp. Ratio	Torque lb. ft.	A.M.A. Rated H.P.	Max. Brake H.P. at R.P.M. Given	Valve Argmt.	Camshaft Drive	Piston Material	Number	Diameter				Length	Carburetor Make	Fuel Feed							Ignition System Make	Generator, Starter Make	Service Location	Lining Area	Drum Material	Hand Location	Cab to Rear of Frame	Cab to Rear Axle	Width of Frame		Front	Rear
1	404.4	6.255	43.3	90-2500	L	G	A	7-2 1/2	12 1/2	FP	No	Zen	M	DR	DR	D.Fu	GO	Spl	Tim	31000H	Ros	L4IH	377	G	TD	Opt	Opt	34	38x2 1/4	56x3	1/2			
2	404.4	6.255	43.3	90-2500	L	G	A	7-2 1/2	12 1/2	FP	No	Zen	M	DR	DR	D.Fu	GO	Spl	Tim	33000H	Ros	L4IHV	660	G	TD	Opt	Opt	34	40x2 1/2	56x3	1/2			
3	404.4	6.255	43.3	90-2500	L	G	A	7-2 1/2	12 1/2	FP	No	Zen	M	DR	DR	D.Fu	GO	Spl	Tim	33000H	Ros	L4IHV	660	G	TD	Opt	Opt	34	40x2 1/2	56x3	1/2			
4	404.4	6.335	51.3	110-2000	L	G	A	7-3	13 1/2	FP	No	Zen	M	DR	DR	D.Fu	GO	Spl	Tim	35000H	Ros	L4IHV	760	G	TD	Opt	Opt	34	42x3	56x3 1/2	1/2			
5	255.4	6.182	27.3	90-3200	F	F	F	C	4-2 3/4	6 1/4	CC	Wa	Str	M	DR	DR	D.Fu	Ch	Spl	Tim	31000H	Ros	L4IHV	306	p	TD	Opt	Opt	34	40 1/2 x 3 1/2	50 1/2 x 3	1/2		
6	282.5	1.180	33.8	85-3200	F	F	F	C	7-2 1/2	10 1/4	CC	Wa	Str	M	DR	DR	P.BB	Ch	Ch	MM	Cla	F320	Ros	L4IH	350	a	2T	113	81	34	40 1/2 x 3 1/2	50 1/2 x 3	1/2	
7	358.4	6.254	38.4	110-2800	L	G	C	7-2 1/2	12 1/2	FP	No	Zen	M	DR	DR	D.Fu	Ch	Spl	Tim	35000H	Ros	L4IHV	500	a	TD	Opt	Opt	34	40 1/2 x 3 1/2	50 1/2 x 3	1/2			
8	358.4	6.254	38.4	110-2800	L	G	C	7-2 1/2	12 1/2	FP	No	Zen	M	DR	DR	D.Fu	Ch	Spl	Tim	35000H	Ros	L4IHV	717	a	TD	Opt	Opt	34	43x3 1/2	53x3 1/2	1/2			
9	462.4	6.324	45.9	125-2600	F	G	C	7-3	13 1/4	PC	Wa	Str	M	DR	DR	D.Fu	Ch	Spl	Tim	27450	Ros	L4IHV	717	a	TD	Opt	Opt	34	43x3 1/2	60x4	1/2			
10	245.5	4.162	29.4	72-3000	L	L	G	C	7-2 1/2	10 1/4	FP	No	Zen	M	DR	DR	P.BB	Yo	Spl	Cla	F308	Ros	L4IH	387	C	T	79	51 1/4	31 1/4	34x2 1/4	48x3	1/2		
11	245.5	4.162	29.4	72-3000	L	L	G	C	7-2 1/2	10 1/4	FP	No	Zen	M	DR	DR	P.BB	Yo	Spl	Cla	F308	Ros	L4IH	262	G	T	108 1/4	69 1/4	31 1/4	34x2 1/4	48x3	1/2		
12	245.5	4.162	29.4	72-3000	L	L	G	C	7-2 1/2	10 1/4	FP	No	Zen	M	DR	DR	P.BB	Yo	Spl	Cla	F308	Ros	L4IH	272	G	T	79	51 1/4	31 1/4	34x2 1/4	48x3	1/2		
13	245.5	4.162	29.4	72-3000	L	L	G	C	7-2 1/2	10 1/4	FP	No	Zen	M	DR	DR	P.BB	Yo	Spl	Cla	F308	Ros	L4IH	272	G	T	89	61	31 1/4	34x2 1/4	48x3	1/2		
14	282.5	4.188	33.8	85-3000	L	L	G	C	7-2 1/2	10 1/4	FP	No	Zen	M	DR	DR	P.BB	Yo	Spl	Cla	F308	Ros	L4IH	311	G	T	108 1/4	69 1/4	31 1/4	34x2 1/4	48x3	1/2		
15	282.5	4.188	33.8	85-3000	L	L	G	C	7-2 1/2	10 1/4	FP	No	Zen	M	DR	DR	P.BB	Yo	Spl	Cla	F308	Ros	L4IH	342	G	T	79	51 1/4	31 1/4	34x2 1/4	48x3	1/2		
16	282.5	4.188	33.8	85-3000	L	L	G	C	7-2 1/2	10 1/4	FP	No	Zen	M	DR	DR	P.BB	Yo	Spl	Cla	F308	Ros	L4IH	342	G	T	89	61	31 1/4	34x2 1/4	48x3	1/2		
17	298.5	3.200	33.7	80-2800	L	L	C	C	7-3	9 1/2	FP	Pe	Zen	M	AL	DR	P.BB	Yo	Bl	Cla	F318	Ros	L4IH	348	p	CD	81	61	31 1/4	41x2 1/4	54 1/2 x 3	1/2		
18	298.5	3.200	33.7	80-2800	L	L	C	C	7-3	9 1/2	FP	Pe	Zen	M	AL	DR	P.BB	Yo	Bl	Cla	F318	Ros	L4IH	348	p	CD	133	85	31 1/4	34x2 1/4	48x3	1/2		
19	298.5	3.200	33.7	80-2800	L	L	C	C	7-3	9 1/2	FP	Pe	Zen	M	AL	DR	P.BB	Yo	Bl	Cla	F318	Ros	L4IH	348	p	CD	89	61	31 1/4	34x2 1/4	48x3	1/2		
20	428.4	8.280	45.9	107-2600	L	G	B	7-3	11 1/2	FP	Pe	Zen	M	DR	DR	D.Fu	Yo	Bl	Shu	632-5	Ros	L4IH	389	G	CD	115	72 1/2	31 1/4	41 1/2 x 2 1/4	54 1/2 x 3	1/2			
21	369.4	8.234	39.9	99-2800	L	G	B	7-3	11 1/2	FP	Pe	Zen	M	AL	DR	D.Fu	Yo	Bl	Cla	F318	Ros	L4IH	380	G	CD	133	85	31 1/4	41x2 1/4	54 1/2 x 3	1/2			
22	369.4	8.234	39.9	99-2800	L	G	B	7-3	11 1/2	FP	Pe	Zen	M	AL	DR	D.Fu	Yo	Bl	Cla	F318	Ros	L4IH	380	G	CD	90	62	31 1/4	41x2 1/4	54 1/2 x 3	1/2			
23	428.4	8.280	45.9	107-2600	L	G	B	7-3	11 1/2	FP	Pe	Zen	M	DR	DR	D.Fu	Yo	Bl	Shu	632	Ros	L4IH	532	p	CD	133	85	31 1/4	41 1/2 x 2 1/4	48x3	1/2			
24	428.4	8.280	45.9	107-2600	L	G	B	7-3	11 1/2	FP	Pe	Zen	M	AL	DR	D.Fu	Yo	Bl	Shu	632	Ros	L4IH	620	p	CD	90	62	31 1/4	41 1/2 x 2 1/4	48x3	1/2			
25	369.4	8.234	39.9	99-2800	L	G	B	7-3	11 1/2	FP	Pe	Zen	M	DR	DR	D.Fu	Yo	Bl	Shu	610-103	Ros	W2IM	326	G	CD	142	83	34 1/4	41 1/2 x 2 1/4	48x3	1/2			
26	428.4	8.280	45.9	107-2600	L	G	B	7-3	11 1/2	FP	Pe	Zen	M	DR	DR	D.Fu	Yo	Bl	Shu	610-103	Ros	W2IM	405	p	CD	94	70 1/2	31 1/4	41 1/2 x 2 1/4	48x3	1/2			
27	428.4	8.280	45.9	107-2600	L	G	B	7-3	11 1/2	FP	Pe	Zen	M	DR	DR	D.Fu	Yo	Bl	Shu	610-103	Ros	W2IM	360	G	CD	110 1/4	86 1/2	35	41 1/2 x 2 1/4	48x3	1/2			
28	525.4	8.336	48.6	111-2200	L	G	B	7-3	11 1/2	FP	Pe	Zen	M	AL	DR	D.Fu	Yo	Bl	Shu	633-11	Ros	41A	556	p	CD	96 1/2	64	31 1/4	41 1/2 x 2 1/4	48x3	1/2			
29	525.4	8.336	48.6	111-2200	L	G	B	7-3	11 1/2	FP	Pe	Zen	M	AL	DR	D.Fu	Yo	Bl	Shu	610-103	Ros	W2IM	360	G	CD	119	86 1/2	35	41 1/2 x 2 1/4	48x3	1/2			
30	228.4	7.142	27.3	59-2800	L	G	C	7-2 1/2	10 1/4	PC	Op	Str	M	AL	AL	P.BL	Yo	Spl	Tim	30020H	Ros	L4IH	249	G	TX	92	56	34	37x2 1/4	54x2 1/4	N			
31	263.5	4.160	31.5	68-2800	L	G	C	7-2 1/2	10 1/4	PC	Op	Str	M	AL	AL	P.L	Yo	Spl	Spl	90	Ros	L4IH	277	G	TX	83 1/2	51 1/4	34	40x2	50x2 1/4	N			
32	263.5	4.160	31.5	68-2800	L	G	C	7-2 1/2	10 1/4	PC	Op	Str	M	AL	AL	P.L	Yo	Spl	Spl	90	Ros	L4IH	277	G	TX	83 1/2	51 1/4	34	40x2	50x2 1/4	N			
33	263.5	4.160	31.5	68-2800	L	G	C	7-2 1/2	10 1/4	PC	Op	Str	M	AL	AL	P.L	Yo	Spl	Tim	31020H	Ros	L4IH	356	G	TX	92	56	34	37x2 1/4	54x2 1/4	N			
34	282.5	4.176	33.7	73-2800	L	G	A	7-2 1/2	10 1/4	PC	Op	Str	M	AL	AL	P.BL	Yo	Spl	Tim	31020H	Ros	L4IH	330	G	TX	92	56	34	37x2 1/4	54x2 1/4	N			
35	339.4	4.210	38.4	76-2400	L	G	C	7-2 1/2	13 1/4	FP	Op	Str	M	AL	AL	P.BL	Yo	Spl	Shu	5572	Ros	L4IH	399	G	CD	108	69 1/4	34	38 1/2 x 2 1/4	54x3	1/2			
36	339.4	4.210	38.4	76-2400	L	G	C	7-2 1/2	13 1/4	FP	Op	Str	M	AL	AL	P.BL	Yo	Spl	Shu	5572	Ros	L4IH	399	G	CD	108	69 1/4	34	38 1/2 x 2 1/4	54x3	1/2			
37	428.4	4.283	45.9	94-2200	L	G	A	7-3	14	PC	Ha	Str	M	AL	AL	P.BL	Yo	Spl	Shu	15582B	Ros	L4IHV	395	G	CD	142	83	34 1/4	40x2 1/4	54x3	1/2			
38	428.4	4.283	45.9	94-2200	L	G	A	7-3	14	PC	Ha	Str	M	AL	AL	P.BL	Yo	Spl	Shu	15582B	Ros	L4IHV	395	G	CD	142								

Line Number	MAKE AND MODEL	GENERAL (See Keynote)				TIRE SIZE		ENGINE		TRANSMISSION		REAR AXLE		FRAME					
		Tonnage Rating	Chassis Price	Standard Wheelbase	Max. W. B. Furnished	Gross Vehicle Weight	Chassis Wt. (Stripped)	Front	Rear	Make and Model	No. of Cyls. Bore and Stroke	Make and Model	Location, Forward Speeds and Aux. Location and Speeds	Make and Model	Gear and Type	Drive & Torque	GEAR RATIOS In High In Low	Side Rail Dimensions	Type
1	Menominee A30 3 (Concl'd)	N-6 3/4	3275	165	185	15035	7035	B8.25/20	DB8.25/20	Wau MK	6-4 1/2 x 4 1/2	BL 528	U 8	No	Tim 58206H	SF	R 7.8 90	8.83x3 1/2	C
2		6W-8 8	3715	165	185	16800	6800	B8.25/20	DB8.25/20	Wau 6-110	6-4 1/2 x 4 1/2	BL 524	U 4	No	Tim 5817	SF	R 9.12 64	4.10x2 3/4 x 1 1/2	C
3			4050	175	190	20200	7200	B9.00/20	DB9.00/20	Wau 6-125	6-4 1/2 x 5 1/2	BL 724	U 4	No	Tim 5817	SF	R 8.50 60	1.10x2 3/4 x 1 1/2	C
4			5800	185	200	28600	11000	B8.25/20	DB8.25/20	Wau 6-125	6-4 1/2 x 5 1/2	BL 724	U 4	No	Tim 58210	2F	R 8.50 60	1.10x2 3/4 x 1 1/2	C
5	Moreland R12H 2 1/2		1515	155	179	11500	4200	B6.50/20	DB6.50/20	Her JXC	6-3 1/2 x 4 1/2	BL 224	U 4	No	Tim 53300	SF	H 5.66 35	7 1/2 x 2 1/2 x 1 1/2	T
6		(17) R13H 2 1/2	1635	155	179	13500	4700	F32x6	DP32x6	Her JXC	6-3 1/2 x 4 1/2	BL 224	U 4	No	Tim 54300	SF	H 5.83 36	7 1/2 x 2 1/2 x 1 1/2	T
7		R16H 3 1/2	1800	150	179	16000	5300	B7.00/20	DB7.00/20	Her YXC	6-3 1/2 x 4 1/2	BL 224	U 4	No	Tim 56200	SF	H 6.17 38	7 1/2 x 2 1/2 x 1 1/2	T
8		E16H 4	2925	179	210	16500	6000	B8.25/20	DB8.25/20	Her WXC3	6-4 1/2 x 4 1/2	BL 3241	U 4	No	Tim 56200	SF	H 6.17 38	9 1/2 x 3 1/2 x 1 1/2	T
9		E22H 5	3160	179	210	22000	6550	B9.00/20	DB9.00/20	Her WXC3	6-4 1/2 x 4 1/2	BL 3241	U 4	No	Tim 58200	SF	H 6.14 43	9 1/2 x 3 1/2 x 1 1/2	T
10		E25H 6	3445	179	210	25000	7050	B9.75/20	DB9.75/20	Her WXC3	6-4 1/2 x 4 1/2	BL 5241	U 4	No	Tim 56720	WF	H 7.25 51	9 1/2 x 3 1/2 x 1 1/2	T
11		H30H 6	4895	196	220	30000	9000	B9.75/20	DB9.75/20	Her RXB	6-4 1/2 x 5 1/2	BL 5241	U 4	No	Tim 66720	WF	R 8.20 59	9 1/2 x 3 1/2 x 1 1/2	T
12	Netco A 2-4		1800	157	190	15000	5500	B7.50/20	DB7.50/20	Wau BL	6-3 1/2 x 4 1/2	BL 224	U 4	No	Tim 54200H	SF	H 5.83 34	2.63x3 1/2	C
13		B 3-6	2400	160	200	20000	6500	B8.25/20	DB8.25/20	Wau BK	6-3 1/2 x 4 1/2	BL 3341	U 4	No	Tim 56300H	SF	H 5.71 44	4.63x3 1/2	C
14		C 4-7	2303	160	200	22000	7300	B9.00/20	DB9.00/20	Wau MK	6-4 1/2 x 4 1/2	BL 334	U 4	No	Tim 58200H	SF	H 6.83 52	8.73x3 1/2	C
15		E 5-8	3403	157	212	24000	8100	B9.75/20	DB9.75/20	Wau MZ	6-4 1/2 x 4 1/2	BL 334	U 4	No	Tim 56720H	WF	R 7.75 58	7.33x3 1/2	C
16		J 6-9	4503	157	212	30000	9200	B10.50/20	DB10.50/20	Lye AEC	8-3 1/2 x 4 1/2	BL 534	U 4	No	Tim 76730	2F	R 8.50 61	2.93x3 1/2	C
17		K 7-10	4900	168	212	32000	9900	B10.50/24	DB10.50/24	Wau SRK	6-4 1/2 x 5 1/2	BL 724	U 4	No	Tim 78720	2F	R 9.92 63	2.93x3 1/2	C
18	Reo S-4P 1 1/2		495	117	117	4500	2565	B6.25/16	B6.25/16	Own	6-3 1/2 x 5	WG T83	U 3	No	Own	SF	H 4.3 28	1.6x2 1/2	C
19		1A4-1C4 1-1 1/2	535	139	166	9500	2805	B6.00/20	B6.00/20	Own	6-3 1/2 x 5	Own	U 4	No	Own	SF	H 5.28 34	6.11x2 1/2	C
20		1B4-1D4 1 1/2-2 1/2	3298	139	166	11500	3298	B6.00/20	B6.00/20	Own	6-3 1/2 x 5	Own	U 4	O 2	Own	SF	H 5.28 34	7 1/2 x 2 1/2	C
21		1B4R-1D4R 2-2 1/2-3 1/2	745	139	166	12500	3353	B6.00/20	B6.00/20	Own	6-3 1/2 x 5	Own	U 4	O 2	Own	SF	H 5.28 34	7 1/2 x 2 1/2	C
22		2B1-2D4 2-2 1/2-3 1/2	895	142	166	13500	3865	B6.50/20	DB6.50/20	Own	6-3 1/2 x 5	Own	U 4	O 2	Own	SF	H 5.83 38	4.73x3 1/2	C
23		2B4R-2D4R 2-2 1/2-3 1/2	1008	142	166	14500	4000	B7.00/20	DB7.00/20	Own	6-3 1/2 x 5	Own	U 4	O 2	Own	SF	H 6.17 40	4.73x3 1/2	C
24		2H (2J-2K) 2-4	1375	142	184	16000	4475	B7.00/20	DB7.00/20	Own	6-3 1/2 x 5	Own	U 4	O 2	Own	SF	H 6.5 42	9.73x3 1/2	C
25		2HR (2JR-2KR) 2 1/2-4	1680	142	184	17000	5125	B7.50/20	DB7.50/20	Own	6-3 1/2 x 5	Own	U 4	O 2	Own	SF	H 7.1 46	8.73x3 1/2	C
26		3H (3JR-3KR) 3-5	1975	153	205	18500	5125	B7.50/20	DB7.50/20	Own	6-3 1/2 x 5	Own	U 4	O 2	Own	SF	H 6.14 42	8 1/2 x 3 1/2	C
27		3HR (3JR-3KR) 3 1/2-5	2490	153	205	19500	6800	B8.25/20	DB8.25/20	Own	6-3 1/2 x 5	Own	U 5	No	Own	SF	H 8.5 52	8 1/2 x 3 1/2	C
28		4H, 4J, 4K, 4M 4-6	2975	170	205	21000	6280	B9.00/20	DB9.00/20	Own	6-3 1/2 x 5	Own	U 5	No	Own	SF	H 8.5 50	10.33x3 1/2	C
29	Schacht 10B 1 1/2		1095	124	172	11500	4350	B6.50/20	DB6.50/20	Her JXB	6-3 1/2 x 4 1/2	WG T9	U 4	No	Tim	BF	H 5.67 36	3.83x3 1/2	C
30		12B 2	1195	132	172	12200	4900	F32x6	DP32x6	Her JXB	6-3 1/2 x 4 1/2	Own	U 4	No	Tim	SF	H 5.83 43	9.83x3 1/2	C
31		15B 2 1/2-3 1/2	1485	126	172	13000	4580	B7.50/20	DB7.50/20	Her JXC	6-3 1/2 x 4 1/2	Fu 5A29	U 4	No	Tim	BF	H 5.83 40	6.83x3 1/2	C
32		18B 2 1/2-3 1/2	1895	124	175	15000	5200	B8.25/20	DB8.25/20	Her JXD	6-4 1/2 x 4 1/2	Fu 5A290	U 5	No	Tim	BF	R 5.83 40	6.83x3 1/2	C
33		20B 3-4 1/2	2095	124	188	17500	5400	B9.00/20	DB9.00/20	Her JXD	6-4 1/2 x 4 1/2	Fu 5A290	U 5	No	Tim	BF	R 7.4 45	1.83x3 1/2	C
34		25B 3 1/2-4 1/2	2595	146	199	19500	5750	B9.75/20	DB9.75/20	Her WXC2	6-4 1/2 x 4 1/2	Fu 5A380	U 5	No	Tim	BF	R 7.8 44	8.83x3 1/2	C
35		30B 4-5 1/2	2895	146	199	23000	6000	B9.75/20	DB9.75/20	Her WXC3	6-4 1/2 x 4 1/2	Fu 5A380	U 5	No	Tim	BF	R 7.8 44	8.83x3 1/2	C
36		30HA 4 1/2-5 1/2	3295	146	227	23000	6800	B9.75/20	DB9.75/20	Her WXC	6-4 1/2 x 4 1/2	Fu 5-A-38	U 5	No	Wls	2F	R 7.14 46	8.83x3 1/2	C
37		35HA 5-6 1/2	3725	146	227	24000	7400	B9.75/20	DB9.75/20	Her WXC2	6-4 1/2 x 4 1/2	Fu 5-A-38	U 5	No	Wls	2F	R 8.00 52	8.83x3 1/2	C
38		40H 5-7 1/2	4295	156	239	25500	7600	B9.75/20	DB9.75/20	Her YXC	6-4 1/2 x 4 1/2	Fu 5-A-53	U 5	No	Wls	2F	R 7.07 49	7.83x3 1/2	C
39		40HB 7-9	4695	156	239	29500	7750	B10.50/20	DB10.50/20	Her YXC	6-4 1/2 x 4 1/2	Fu 5-A-53	U 5	No	Wls	2F	R 7.07 49	7.83x3 1/2	C
40		66HA 8-11 1/2	5895	154	251	35000	9820	B10.50/24	DB10.50/24	Her RXC	6-4 1/2 x 4 1/2	Fu 5-A-53	U 5	No	Wls	2F	R 7.07 49	7.83x3 1/2	C
41		(T) TRD 10	4150	150	174	35000	11000	B9.00/20	DB9.00/20	Her YXC	6-4 1/2 x 4 1/2	Fu 5-A-53	U 5	No	Wls	2F	R 7.8 56	7.83x3 1/2	C
42		(T) TRDA 12	4350	150	174	39000	7226	B9.75/20	DB9.75/20	Her YXC3	6-4 1/2 x 4 1/2	Fu 5-A-53	U 5	No	Wls	2F	R 7.8 56	7.83x3 1/2	C
43		(T) TRDB 15	4595	150	174	45000	7326	B9.75/20	DB9.75/20	Her RXC	6-4 1/2 x 4 1/2	Fu 5-A-53	U 5	No	Wls	2F	R 7.8 56	7.83x3 1/2	C
44	Sterling FB50 De L 2-2 1/2		1905	174	204	13000	4900	B7.00/20	DB7.00/20	Wau 6BK	6-3 1/2 x 4 1/2	WG T9	U 4	No	Own	SF	R 6.60 42	2.10x3 1/2	L
45		FB60 De L 2 1/2-3	2055	174	204	15000	5150	B7.00/20	DB7.00/20	Wau 6BK	6-3 1/2 x 4 1/2	Own UC12	U 4	No	Own	SF	R 6.60 44	2.10x3 1/2	L
46		FB70 De L 2 1/2-3	2305	174	204	17000	5475	B7.50/20	DB7.50/20	Wau 6BK	6-3 1/2 x 4 1/2	Own UC6	U 4	No	Own	SF	R 7.07 49	2.10x3 1/2	L
47		FB80 De L 2 1/2-3	2915	174	204	22000	6525	B8.25/20	DB8.25/20	Wau 6MK	6-4 1/2 x 4 1/2	Own UC11	U 5	No	Own	SF	R 7.80 54	6.83x3 1/2	L
48		FD90 4-5 1/2	3175	174	204	22000	7175	B9.00/20	DB9.00/20	Wau 6MK	6-4 1/2 x 4 1/2	Own UC11	U 5	No	Own	2F	R 8.40 58	10.83x3 1/2	L
49		FD97 5-6	4825	192	222	26000	8235	B9.75/20	DB9.75/20	Wau 6SRL	6-4 1/2 x 4 1/2	Own UC2	U 4	Op	Own	2F	R 9.41 62	9.12x3 1/2	L
50		FD115 6-7	5225	192	222	32000													

Type	Line Number	ENGINE DETAILS					MAIN BEARINGS	Oiling System	Governor Make	Carburetor Make	FUEL SYST.	ELEC. TRICAL	Ignition System Make	Generator, Starter Make	Clutch Type and Make	Radiator Make	Universal Make	FRONT AXLE	Steering Gear Make	BRAKES				BODY MOUNTING DATA				SPRINGS		Auxiliary Type																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
		Displacement	Comp. Ratio	Torque lb. ft.	A.M.A. Rated H.P.	Max. Brake H.P. at R.P.M. Given														Valve Argmt. Camshaft Drive	Piston Material	Number and Diameter	Length	Make Location Type	Lining Area	Drum Material	Hand Location Type	Cab to Rear of Frame	Cab to Rear Axle		Width of Frame	Front	Rear																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
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e	Service	Service	Service	Service	Service	Service	Service	Service	Service	Service	Service	Service	Service	Service	Service	Service	Service	Service	Service	Service	Service	Service	Service	Service	Service	Service	Service	Service

Line Number	Displacement	Comp. Ratio
1	434.4	4.9
2	580.1	6.2
3	580.1	6.2
4	580.1	6.2
5	580.4	6.4
6	580.4	6.4
8	434.4	4.9
9	134.5	5.1
10	134.5	5.1
11	393.4	4.4
12	428.4	4.8
13	468.4	5.2
14	525.4	5.9
15	525.4	5.9
16	638.4	7.2
17	779.4	8.8
18	245.5	5.2
19	282.5	5.5
20	315.5	5.8
21	462.4	5.2
22	517.4	5.8
23	282.5	5.5
24	251.4	5.1
25	315.5	5.8
26	381.4	6.5
27	398.4	4.5
28	411.4	4.6
29	411.4	4.6
30	462.4	5.2
31	462.4	5.2
32	517.4	5.8
33	517.4	5.8
34	411.4	4.6
35	362.2	3.7
36	362.2	3.7
37	462.5	5.2
38	462.5	5.2
39	462.5	5.2
40	282.5	5.5
41	282.5	5.5
42	315.5	5.8
43	428.4	4.8
44	428.4	4.8
45	501.4	5.6
46	707.4	8.0
47	228.5	5.0
48	282.5	5.5
49	339.5	5.9
50	383.5	6.5
51	383.5	6.5
52	428.4	4.8
53	428.4	4.8
54	529.4	5.9
55	529.4	5.9
56	707.4	8.0
57	263.5	5.0
58	282.5	5.5
59	339.5	5.9
60	360.4	4.0
61	383.4	4.3
62	383.4	4.3
63	453.4	5.1
64	453.4	5.1
65	500.4	5.6
66	500.4	5.6
67	529.4	5.9
68	529.4	5.9
69	707.4	8.0
70	855.4	9.6
71	381.6	4.3
72	404.6	4.6
73	462.5	5.2
74	517.5	5.8
75	517.5	5.8
76	517.5	5.8
77	677.5	7.7
78	677.5	7.7
79	360.4	4.0
80	282.4	5.1
81	381.4	4.3
82	462.4	5.2
83	462.4	5.2
84	381.4	4.3
85	462.4	5.2
86	462.4	5.2
87	517.4	5.8
88	462.4	5.2
89	404.4	4.6
90	462.4	5.2
91	677.4	7.7
92	677.4	7.7
93	779.4	8.8
94	263.5	5.0
95	282.5	5.5
96	339.5	5.9
97	383.5	6.5
98	383.5	6.5
99	529.5	5.9
100	255.5	5.1
101	358.5	4.0
102	462.5	5.2
103	462.5	5.2
104	462.5	5.2
105	588.5	6.6

Jun

CCCP

[illegible]

Line Number	MAKE AND MODEL	GENERAL (See Keynote)				TIRE SIZE		ENGINE		TRANSMISSION		REAR AXLE		FRAME					
		Tonnage Rating	Chassis Price	Standard Wheelbase Max. W. B. Furnished	Gross Vehicle Weight	Chassis Wt. (Stripped)	Front	Rear	Make and Model	No. of Cylinders, Bore and Stroke	Make and Model	Location, Forward Speeds and Aux. Location and Speeds	Make and Model	Gear and Type	GEAR RATIOS		Side Rail Dimensions	Type	
															In High	In Low			
1	Fageol 10-46RB	4R 10	9200	232	232	56000	15300	B9.75/20	DB9.75/20	Wau 6RB	6-5x5 1/2	BL 7341	U 4 A 3 Tim Own	WF	R 6.2	135.2	8 1/2 x 4 1/2		
2	(Co'l) 10-46AL	4R 10	10200	232	232	56000	13200	B9.75/20	DB9.75/20	Wau 6RB	6-5x5 1/2	BL 7341	U 4 A 3 Tim Own	WF	R 6.2	135.2	15x4 1/2		CT
3	(D) 1046AL-D	4R 10	11575	232	232	56000	14300	B9.75/20	DB9.75/20	Wau 6D140	6-5x5 1/2	BL 7341	U 4 A 3 Tim Own	WF	R 6.2	135.2	15x4 1/2		CT
4	Federal.....21	2R 3	1420	172	198	15000	4800	B6.00/20	DB6.00/20	Her JXB	6-3 1/2 x 4 1/2	WG T9	U 4 No Cla B412	SF	R 6.38	40.8	8 1/2 x 2 1/2		TL
5	FWD.....MX6	6 10-15	12255	200	Op	52400	17100	B13.50/20	B13.50/20	Wau RB	6-5x5 1/2	BL 734	U 4 A 2 Wis 131TW	2F	H 8.36	173.	10x3 1/2		CC
6	.....X6	10-12	8165	170	Op	40000	13400	B10.50/20	DB10.50/20	Wau 125	6-4 1/2 x 5 1/2	Own U	U 4 A Op Own X	BF	H 6.72	66.8	7x3 1/2		CC
7	Hendrick'n 21D	4R 2-6	3500	Op	Op	21000	6800	B7.50/20	DB7.50/20	Wau 6-90	6-3 1/2 x 4 1/2	Fu 5-A-38	U 5 No Own 989	SF	H Opt	Opt	8x3x 1/2		CC
8	.....25D	4R 3-8	3900	Op	Op	25000	8000	B8.25/20	DB8.25/20	Wau 6-110	6-4x4 1/2	Fu 5-A-38	U 5 No Own 989	SF	H Opt	Opt	8x3x 1/2		CC
9	.....32D	4R 4-9	4900	Op	Op	32000	10500	B9.00/20	DB9.00/20	Wau 6-110	6-4x4 1/2	Fu 5-A-38	U 5 No Own 2513X	SF	R Opt	Opt	8x3x 1/2		CC
10	.....38D	4R 5-12	6600	Op	Op	38000	11200	B9.75/20	DB9.75/20	Wau 6-125	6-4 1/2 x 5 1/2	Fu 5-A-53	U 5 No Own 2513X	SF	R Opt	Opt	8x3x 1/2		CC
11	.....40D	4R 12	8000	Op	Op	40000	13200	B9.75/20	DB9.75/20	Wau 6-125	6-4 1/2 x 5 1/2	Fu 5-A-53	U 5 No Eat 44000	2F	R Opt	Opt	8x3x 1/2		CC
12	.....44D	4R 12	9000	Op	Op	44000	14000	B9.75/20	DB9.75/20	Wau 6RB	6-5x5 1/2	BL 70-7	U 7 No Eat 44000	2F	R Opt	Opt	8x3x 1/2		CC
13	Hug.....97LD	4R 7 1/2	8120	148	148	50000	12990	B10.50/20	DB10.50/20	Bud L525	6-4 1/2 x 5 1/2	Fu 5A530	U 5 A 3 Wis SD310AH	2F	R 6.53	133.	9x4 1/2		I
14	.....99	4R 10	9650	148	148	64500	15100	B10.50/20	DB10.50/20	Bud GF6	6-4 1/2 x 5 1/2	Sp1 7341-703	U 4 A 3 Wis SD420BW	2F	R 7.66	168.	9x4 1/2		I
15	Ind. 95SBT-151	2C 3	1875	168	186	20000	6125	P32x6	DP32x6	Her JXC	6-3 1/2 x 4 1/2	BL 2353	U 4 No Tim SBT151	SF	A 7.4	45.8	7 1/2 x 2 1/2		T
16	.....95SW-75	4R 3	1900	168	186	20000	5800	P32x6	DP32x6	Her JXC	6-3 1/2 x 4 1/2	BL 2353	U 4 No Tim SW75	WF	A 7.4	45.8	7 1/2 x 2 1/2		T
17	.....17ASW151	4R 3	3450	188	212	24000	7500	B8.25/20	DB8.25/20	Her WXC	6-4 1/2 x 5 1/2	BL 3341	U 4 Op Tim SW151	WF	A 6.14	40.3	8 1/2 x 3 1/2		T
18	.....17SBT251	2C 4	3500	188	224	28000	8850	P34x7	DP34x7	Her YXC	6-4 1/2 x 5 1/2	BL 5241	U 4 Op Tim SBT251	SF	A 6.14	43.4	8 1/2 x 3 1/2		T
19	.....17SW251	4R 4	3900	188	224	28000	9500	P34x7	DP34x7	Her YXC	6-4 1/2 x 5 1/2	BL 5241	U 4 Op Tim SW251	WF	A 6.14	43.4	8 1/2 x 3 1/2		T
20	.....16X6	6 3-4	5650	160	Op	20000	8000	B7.00/20	DB7.00/20	Her YXC	6-4 1/2 x 5 1/2	BL 5341	U 4 A 2 Wis SFD151	2F	A 7.0	113	8 1/2 x 3 1/2		T
21	.....18X6	6 4 1/2-6	6650	172	Op	28000	10500	B8.25/20	DB8.25/20	Her RXC	6-4 1/2 x 5 1/2	BL 5341	U 4 A 2 Wis SD251H	2F	A 7.83	132	8 1/2 x 3 1/2		T
22	.....20X6	6 5 1/2-8	8950	200	Op	36000	15000	B9.75/20	DB9.75/20	Her HXB	6-5x6	BL 7341	U 4 A 2 Wis SFD320W	2F	A 9.11	146	10x3x 1/2		T
23	.....22X6	6 7 1/2-10	12100	200	Op	40000	16000	B9.75/24	DB9.75/24	Her HXB	6-5x6	BL 7341	U 4 A 3 Wis SFD420W	2F	A 9.11	168	10x3x 1/2		T
24	Ken.....89SBT	2C 7	2380	188	224	25500	7350	P32x6	DP32x6	Her JXC	6-3 1/2 x 4 1/2	BL 234	U 4 Op Tim SBT151	SF	A 7.4	45.5	8x3x 1/2		TL
25	.....127SBT	2C 8	3450	188	224	26000	8000	B8.25/20	DB8.25/20	Her WXC2	6-4 1/2 x 5 1/2	BL 3341	U 4 Op Tim SBT151	SF	A 7.4	45.5	8x3x 1/2		TL
26	.....146SBT	2C 9	4250	188	224	33000	9000	B9.00/20	DB9.00/20	Bud K393	6-4 1/2 x 5 1/2	BL 3341	U 4 Op Tim SBT251	SF	A 7.8	48.	8x3x 1/2		TL
27	.....D-146-SW	9	7500	210	240	33000	10500	B9.00/20	DB9.00/20	Bud 6D-415	6-4x5 1/2	BL 5341	U 4 Op Tim SW251SW	WF	H 7.5	47.6	8x3x 1/2		TL
28	.....189SDT	2C 10	6450	205	235	39000	10500	B9.00/20	DB9.00/20	Her YXC2	6-4 1/2 x 5 1/2	BL 5341	U 4 A 3 Tim SD320SW	2F	H 7.33	104	9x3x 1/2		T
29	.....241SDT	2C 10	6850	205	235	40500	11000	B9.00/20	DB9.00/20	Her RNB	6-4 1/2 x 5 1/2	BL 7341	U 4 A 3 Tim SD320SW	2F	H 7.33	85.5	9x3x 1/2		T
30	.....D-346-C	4R 10	10250	210	240	40500	14300	B9.75/20	DB9.75/20	Cum HA6	6-4 1/2 x 5 1/2	BL 7341	U 4 A 3 Tim SW320SW	WF	H 6.8	92.	8x3x 1/2		CC
31	.....346A	4R 10	8800	210	240	40500	13000	B9.75/20	DB9.75/20	Has 160	6-4 1/2 x 5 1/2	BL 7341	U 4 A 3 Tim SW320SW	WF	H 7.25	84.5	8x3x 1/2		CC
32	.....346C	4R 10	9500	210	240	40500	14000	B9.75/20	DB9.75/20	Has 175	6-5x6	BL 7341	U 4 A 3 Tim SW320SW	WF	H 7.25	98.4	8x3x 1/2		CC
33	.....386C	4R 10	10200	210	240	50100	14500	B9.75/20	DB9.75/20	Has 175	6-5x6	BL 7341	U 4 A 3 Tim SW420SW	WF	H 7.60	103.	8x3x 1/2		CC
34	Kleiber.....81	5	3200	180	190	20000	6500	P32x6	DP32x6	Her JXB	6-3 1/2 x 4 1/2	BL 2241	U 4 No Tim SBT 75	BF	R 6.54	32.	7 1/2 x 3 1/2		C
35	.....121	7	4200	190	200	26000	8500	B8.25/20	DB8.25/20	Con 18R	6-4x4 1/2	BL 3241	U 4 No Tim SBT 151	BF	R 6.17	33.4	7 1/2 x 3 1/2		C
36	.....141	9	5000	200	210	33000	9500	B9.00/20	DB9.00/20	Con 21R	6-4 1/2 x 5 1/2	BL 5241	U 4 No Tim SBT251	BF	R 6.84	41.	7 1/2 x 3 1/2		C
37	La Fran-R.....Q6	4R 9-12	11605	216	260	40000	14900	B10.50/20	DB10.50/20	Own 312B	12-4x5	BL 714	U 4 No Tim SWD410	WF	Opt	Opt	12x3 1/2		L
38	Le Moon (9) 701	4R 5-6	4475	187	199	.....	8500	B8.25/20	DB8.25/20	Lye AEC	8-3 1/2 x 4 1/2	Fu VUOG	U 5 No T 65703-97H	WF	R 6.20	43.8	7x4x 1/2		B
39	.....(9) 801	4R 6-7	5100	187	199	.....	9720	B9.00/20	DB9.00/20	Lye AEC	8-3 1/2 x 4 1/2	Fu VUOG	U 5 No T 65703-97H	WF	H 6.75	47.7	7x4x 1/2		B
40	.....802	4R 6-7	5350	187	199	.....	9800	B9.00/20	DB9.00/20	Wau 6SRL	6-4 1/2 x 5 1/2	Fu VUOG	U 5 No T 65703-97W	WF	H 6.75	47.7	7x4x 1/2		B
41	.....900	4R 7-8	6775	191	203	.....	12000	B9.75/20	DB9.75/20	Wau 6SRL	6-4 1/2 x 5 1/2	BL 607	U 7 No Tim SW310W	WF	H 9.25	86.9	9x4x 1/2		B
42	.....1000	4R 8-10	7950	196	208	.....	12600	B9.75/24	DB9.75/24	Wau 6A	6-4 1/2 x 5 1/2	BL 714	U 4 A 3 Tim SW310W	WF	H 9.25	128.	9x4x 1/2		B
43	.....1200	4R 10-12	8500	196	208	.....	14000	B9.75/24	DB9.75/24	Wau 6RB	6-5x5 1/2	BL 714	U 4 A 3 Tim SW410W	WF	H 9.25	128.	9x4x 1/2		B
44	.....1200D	4R 10-12	9750	196	208	.....	14000	B9.75/24	DB9.75/24	Cum Die.H6	6-4 1/2 x 5 1/2	BL 735	U 5 No Tim SW410W	WF	H 7.6	47.6	9x4x 1/2		B
45	Mack.....BX	4R 8-15	7950	178	219	.....	12100	B8.25/22	DB8.25/22	Own CF	6-4 1/2 x 5 1/2	Own BX	U 5 No Own BX6	2F	A 4.71	46.0	9 1/2 x 3 1/2		T
46	.....BQ	4R 8-15	9350	185	233	.....	14500	B9.75/22	DB9.75/22	Own BQ	6-4 1/2 x 5 1/2	Own BX	U 4 No Own BX6	2F	A 6.54	41.9	10 1/2 x 3 1/2		T
47	.....AC	4R 8-15	8500	171	221	.....	14500	P40x8	DP40x8	Own BQ	6-4 1/2 x 5 1/2	Own AC	U 4 No Own AC6	CD	R 9.26	59.4	8 1/2 x 3 1/2		T
48	.....AK	4R 8-15	9350	171	221	.....	15900	B9.75/22	DB9.75/22	Own BQ	6-4 1/2 x 5 1/2	Own AK	U 4 No Own AK6	CD	A 7.46	47.8	8 1/2 x 3 1/2		T
49	.....AP	4R 8-15	11500	171	221	.....	14900	P40x8	DP40x8	Own AP	6-5x6	Own AK	U 4 No Own AK6	CD	R 9.26	59.4	8 1/2 x 3 1/2		T
50	.....AP	4R 8-15	11000	171	221	.....	16400	B9.75/22	DB9.75/22	Own AP	6-5x6	Own AK	U 4 No Own AK6	2F	A 7.46	47.8	8 1/2 x 3 1/2		T
51	Mar-Her TH310A-6	10	10000	193	229	.....	13600	B9.75/22	DB9.75/22										

Line Number	ENGINE DETAILS										Type	Governor Make	FUEL SYST.		ELEC-TRICAL		Clutch Type and Make	Radiator Make	Universal Make	FRONT AXLE		Steering Gear Make	BRAKES			BODY MOUNT-ING DATA			SPRINGS			Auxiliary Type									
	Displacement	Comp. Ratio	Torque lb. ft.	A.M.A. Rated H.P.	Max. Brake H.P. at R.P.M. Given	Valve Argmt.	Camshaft Drive	MAIN BEARINGS					Carburetor Make	Fuel Feed	Ignition Sys-tem Make	Generator, Starter Make				Clutch Type and Make	Radiator Make		Universal Make	Make and Model	Lining Area	Drum Material	Hand Location	Cab to Rear of Frame	Cab to Rear Axle	Width of Frame	Front		Rear								
								Number and Diameter	Length	Piston Material																								Lining Area	Drum Material	Hand Location	Cab to Rear of Frame	Cab to Rear Axle	Width of Frame	Front	Rear
1677	4.4	440	60	125-1800	L	G	A	4-3 1/2	11 1/2	CC	No	Zen	M	DR	DR	P.B.L.	Pe	Spl	Tim 27050N	Ros	W4r1A	760	H	FD	214 1/4	144 1/4	33 1/2	42 1/2 x 3	49 1/2 x 4	N											
1677	4.4	440	60	125-1800	L	G	A	4-3 1/2	11 1/2	CC	No	Zen	M	DR	DR	P.B.L.	Pe	Spl	Tim 27050N	Ros	W4r1A	760	H	FD	214 1/4	144 1/4	33 1/2	42 1/2 x 3	49 1/2 x 4	N											
1677	4.4	440	60	125-1800	L	G	A	4-3 1/2	11 1/2	CC	No	Zen	M	DR	DR	P.B.L.	Pe	Spl	Tim 27050N	Ros	W4r1A	760	H	FD	214 1/4	144 1/4	33 1/2	42 1/2 x 3	49 1/2 x 4	N											
263	5.4	164	31.5	67-2600	L	G	A	7-2 1/2	10 1/2	PC	Mo	Zen	M	DR	DR	P.B.B.	Lo	Spl	Tim 31020H	Ge	L6IH	384	a	TX	143	86 1/2	34	38x2 1/2	45x3	N											
5677	5.2	460	60	125-2000	L	F	G	H	4-3 1/2	11 1/2	PC	Wa	Zen	M	DR	DR	D.B.L.	Pe	Blo	Wis 131F	Ros	B6IMV	504	G	T4	220	145	34	48x3 1/2	40x5	N										
4692	5.2	330	45.9	125-2500	L	F	G	H	4-3 1/2	11 1/2	PC	Wa	Zen	M	DR	DR	D.B.L.	Pe	Blo	Wis 131F	Ros	B6IMV	504	G	T4	220	145	34	48x3 1/2	40x5	N										
7255	4.6	182	27.3	90-3200	F	G	C	4-2 1/2	12 1/2	PC	Wa	Zen	M	DR	DR	D.Fu	Ch	MM	Tim 33000H	Ros	L4IHV	295	p	TD	Opt	Opt	34	40 1/2 x 3 1/2	31x3	N											
8358	4.6	254	38.4	110-2800	F	G	C	7-2 1/2	12 1/2	PC	Wa	Zen	M	DR	DR	D.Fu	Ch	MM	Tim 33000H	Ros	L4IHV	295	p	TD	Opt	Opt	34	40 1/2 x 3 1/2	31x3	N											
9358	4.6	254	38.4	110-2800	F	G	C	7-2 1/2	12 1/2	PC	Wa	Zen	M	DR	DR	D.Fu	Ch	MM	Tim 33000H	Ros	L4IHV	295	p	TD	Opt	Opt	34	40 1/2 x 3 1/2	31x3	N											
10428	4.6	324	45.9	125-2600	F	G	C	7-3	13 1/2	PC	Wa	Zen	M	DR	DR	D.Fu	Ch	MM	Tim 27450	Ros	L4IHV	504	G	TD	Opt	Opt	34	43x3 1/2	35 1/2 x 4	N											
10428	4.6	324	45.9	125-2600	F	G	C	7-3	13 1/2	PC	Wa	Zen	M	DR	DR	D.Fu	Ch	MM	Tim 27450	Ros	L4IHV	504	G	TD	Opt	Opt	34	43x3 1/2	35 1/2 x 4	N											
1277	4.6	440	60	126-1850	L	F	G	C	4-3 1/2	10 1/2	PC	Wa	Zen	M	DR	DR	D.B.L.	Ch	Blo	Tim 27450	Ros	W4r1A	780	G	TD	Opt	Opt	34	43x3 1/2	35 1/2 x 4	N										
1325	4.8	336	48.6	111-2200	L	G	C	7-3	11 1/2	FP	Pe	Zen	M	DR	DR	D.Fu	Yo	Blo	Shu 715	Ros	L4rTH	720	G	TD	139	88 1/2	38	41 1/2 x 3	53x4	N											
1438	4.3	410	54.1	126-1850	L	G	C	4-3	10 1/2	FP	Pe	Zen	M	DR	DR	D.Fu	Yo	Blo	Shu 1679	Ros	W6r1A	806	G	TD	139	88 1/2	38 1/2	41 1/2 x 3	53x4	N											
15282	5.3	186	33.7	73-2800	L	G	A	7-2 1/2	10 1/2	PC	No	Str	M	AL	AL	P.B.L.	Yo	Spl	Tim 31020H	Ros	L6IHV	530	G	TX	140	83	34	37x2 1/2	52x4	N											
16282	5.3	186	33.7	73-2800	L	G	A	7-2 1/2	10 1/2	PC	No	Str	M	AL	AL	P.B.L.	Yo	Spl	Tim 31020H	Ros	L6IHV	530	G	TX	140	83	34	37x2 1/2	52x4	N											
1739	4.7	210	38.4	76-2400	L	G	A	7-2 1/2	13 1/2	PC	Op	Str	M	AL	AL	P.B.L.	Yo	Spl	Shu 5572	Ros	L4IHV	569	G	CD	168	101	34	39 1/2 x 2 1/2	52x4	N											
1828	4.4	283	45.9	94-2200	L	G	A	7-3	14	PC	Ha	Str	M	AL	AL	P.B.L.	Yo	Spl	Shu 15582B	Ros	L6IHV	645	G	CD	168	101	34	40x2 1/2	52x4	N											
1828	4.4	283	45.9	94-2200	L	G	A	7-3	14	PC	Ha	Str	M	AL	AL	P.B.L.	Yo	Spl	Shu 15582B	Ros	L6IHV	645	G	CD	168	101	34	40x2 1/2	52x4	N											
1928	4.4	283	45.9	94-2200	L	G	A	7-3	14	PC	Ha	Str	M	AL	AL	P.B.L.	Yo	Spl	Shu 15582B	Ros	L6IHV	645	G	CD	168	101	34	40x2 1/2	52x4	N											
2028	4.4	283	45.9	94-2200	L	G	A	7-3	14	PC	Ha	Str	M	AL	AL	P.B.L.	Yo	Spl	Shu 15582B	Ros	L6IHV	645	G	CD	168	101	34	40x2 1/2	52x4	N											
2129	4.4	350	51.3	111-2000	L	G	A	7-3	14	PC	Ha	Str	M	AL	AL	P.B.L.	Yo	Spl	Wis F200	Ros	L4IHV	406	G	TD	122	72	34	44x3	52x4	N											
2277	4.4	455	60	142-2000	L	G	A	7-3 1/2	17	PC	Ha	Str	M	AL	AL	P.B.L.	Yo	Spl	Wis F210	Ros	L4IHV	476	G	TD	142	84	34	44x3	52x4	N											
2377	4.4	455	60	142-2000	L	G	A	7-3 1/2	17	PC	Ha	Str	M	AL	AL	P.B.L.	Yo	Spl	Wis F210	Ros	L4IHV	476	G	TD	142	84	34	44x3	52x4	N											
2707	5.4	455	60	148-2000	L	G	A	7-3 1/2	17	PC	Ha	Str	M	AL	AL	P.B.L.	Yo	Spl	Wis F310	Ros	W4r1A	588	G	TD	170	99	34	44x3	42x4	N											
282	4.7	176	33.7	73-2700	L	G	A	7-2 1/2	10 1/2	FP	No	Zen	M	DR	DR	P.B.L.	Pe	Spl	Tim 31000H	Ros	L6IHV	536	a	TX	168	100	34	44x3	42x4	N											
282	4.7	176	33.7	73-2700	L	G	A	7-2 1/2	10 1/2	FP	No	Zen	M	DR	DR	P.B.L.	Pe	Spl	Tim 31000H	Ros	L6IHV	536	a	TX	168	100	34	44x3	42x4	N											
282	4.7	176	33.7	73-2700	L	G	A	7-2 1/2	10 1/2	FP	No	Zen	M	DR	DR	P.B.L.	Pe	Spl	Tim 31000H	Ros	L6IHV	536	a	TX	168	100	34	44x3	42x4	N											
282	4.7	176	33.7	73-2700	L	G	A	7-2 1/2	10 1/2	FP	No	Zen	M	DR	DR	P.B.L.	Pe	Spl	Tim 31000H	Ros	L6IHV	536	a	TX	168	100	34	44x3	42x4	N											
282	4.7	176	33.7	73-2700	L	G	A	7-2 1/2	10 1/2	FP	No	Zen	M	DR	DR	P.B.L.	Pe	Spl	Tim 31000H	Ros	L6IHV	536	a	TX	168	100	34	44x3	42x4	N											
282	4.7	176	33.7	73-2700	L	G	A	7-2 1/2	10 1/2	FP	No	Zen	M	DR	DR	P.B.L.	Pe	Spl	Tim 31000H	Ros	L6IHV	536	a	TX	168	100	34	44x3	42x4	N											
282	4.7	176	33.7	73-2700	L	G	A	7-2 1/2	10 1/2	FP	No	Zen	M	DR	DR	P.B.L.	Pe	Spl	Tim 31000H	Ros	L6IHV	536	a	TX	168	100	34	44x3	42x4	N											
282	4.7	176	33.7	73-2700	L	G	A	7-2 1/2	10 1/2	FP	No	Zen	M	DR	DR	P.B.L.	Pe	Spl	Tim 31000H	Ros	L6IHV	536	a	TX	168	100	34	44x3	42x4	N											
282	4.7	176	33.7	73-2700	L	G	A	7-2 1/2	10 1/2	FP	No	Zen	M	DR	DR	P.B.L.	Pe	Spl	Tim 31000H	Ros	L6IHV	536	a	TX	168	100	34	44x3	42x4	N											
282	4.7	176	33.7	73-2700	L	G	A	7-2 1/2	10 1/2	FP	No	Zen	M	DR	DR	P.B.L.	Pe	Spl	Tim 31000H	Ros	L6IHV	536	a	TX	168	100	34	44x3	42x4	N											
282	4.7	176	33.7	73-2700	L	G	A	7-2 1/2	10 1/2	FP	No	Zen	M	DR	DR	P.B.L.	Pe	Spl	Tim 31000H	Ros	L6IHV	536	a	TX	168	100	34	44x3	42x4	N											
282	4.7	176	33.7	73-2700	L	G	A	7-2 1/2	10 1/2	FP	No	Zen	M	DR	DR	P.B.L.	Pe	Spl	Tim 31000H	Ros	L6IHV	536	a	TX	168	100	34	44x3	42x4	N											
282	4.7	176	33.7	73-2700	L	G	A	7-2 1/2	10 1/2	FP	No	Zen	M	DR	DR	P.B.L.	Pe	Spl	Tim 31000H	Ros	L6IHV	536	a	TX	168	100	34	44x3	42x4	N											
282	4.7	176	33.7	73-2700	L	G	A	7-2 1/2	10 1/2	FP	No	Zen	M	DR	DR	P.B.L.	Pe	Spl	Tim 31000H	Ros	L6IHV	536	a	TX	168	100	34	44x3	42x4	N											
282	4.7	176	33.7	73-2700	L	G	A	7-2 1/2	10 1/2	FP	No	Zen	M	DR	DR	P.B.L.	Pe	Spl	Tim 31000H	Ros	L6IHV	536	a	TX	168	100	34	44x3	42x4	N											
282	4.7	176	33.7	73-2700	L	G	A	7-2 1/2	10 1/2	FP	No	Zen	M	DR	DR	P.B.L.	Pe	Spl	Tim 31000H	Ros	L6IHV	536	a	TX	168	100	34	44x3	42x4	N											
282	4.7	176	33.7	73-2700	L	G	A	7-2 1/2	10 1/2	FP	No	Zen	M	DR	DR	P.B.L.	Pe	Spl	Tim 31000H	Ros	L6IHV	536	a	TX	168	100	34	44x3	42x4	N											
282	4.7	176	33.7	73-2700	L	G	A	7-2 1/2	10 1/2	FP	No	Zen	M	DR	DR	P.B.L.</																									

Pneumonia



DESTROYS MEN AND MOTORS



HANDY *Perfection* (Oil Wash) AIRCLEANER

In many parts of the world, Dust Pneumonia is killing men, women and children. And dust-laden air is just as deadly to motors.

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No messy cleaning operations, with the Handy. It cleans itself while it cleans the air. Just dump the dirt, refill with oil, and go ahead.

Write for full information! Even better, see your Handy Distributor!

HANDY GOVERNOR CORPORATION, DETROIT, MICHIGAN

Intensity of Use

(CONTINUED FROM PAGE 20)

CONSIDER, first, the treatment of the problem as it applies to trucks! If we are to be prepared for the time when considerations of economy dictate the retirement of a truck, then it is necessary that we approximate a predetermined monthly average use, i.e., number of miles. With this as a basis, there is established a schedule of "minimum monthly charges" for all sizes of trucks. Since these minimum charges were predicated upon a moderately high mileage, it meant that the unit rates to be charged for those trucks which were doing little traveling would be quite

high—they might easily be three or four times the regular rates.

The effect of the change was immediate and surprising even to myself, who had anticipated something of a change. Within 30 days, 16 trucks—and within 60 days more than 30—had been released and thus made available, either for reassignment or for retirement without replacement. The huge saving which such a stimulus to a smaller number of trucks means in lessened capital investment and cost of upkeep is easy to realize. The plan has been in successful operation ever since.

WE keep accurate, exhaustive records of the activities of our automotive equipment in terms of months and

years, miles traveled, volume of products delivered, and so on. We have charts that picture the stories of these things in graphic fashion. Thus our charts show that in 1928, when the present system began, the fleet of 1080 vehicles traveled a total distance of 11,600,000 miles. In 1934, 683 vehicles were operated over a total of 9,550,000 miles—certainly a greatly increased proportion of miles covered to the number of units in use. The lessened mileage shown in the 1934 record is due in part to better routing of the movements of the operating vehicles.

In 1928, that part of our fleet used by the marketing division traveled an average of 36.9 miles for each 1000 gallons delivered. In 1934 it traveled only an average of 31.2 miles for the same deliveries.

The increased intensity of use which has been brought about by these methods has contributed also to a decided reduction in the depreciation charge. The depreciation charge for 1934 has dropped \$153,300 from that of 1928, a decrease from 3.56 cents per mile covered to 2.73 cents per mile, or a reduction of considerably more than 20 per cent.

PART of the decreased costs are due to a change in the relative number of different-sized vehicles and also to a reduction in the first cost of given sizes. That is, we have purchased less expensive vehicles where it was found feasible and economically sound and we have thus cut the bills for maintenance.

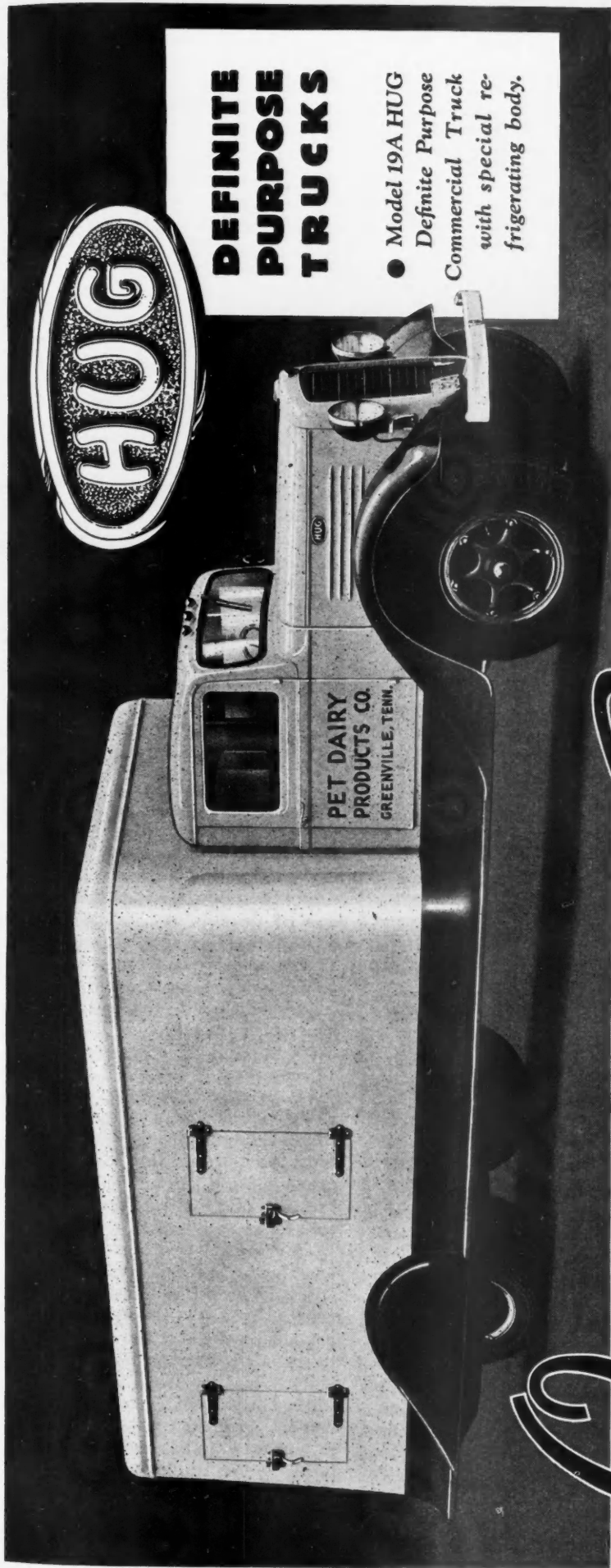
We have also made changes in the mountings of our trucks. We have some trucks, for example, that are now equipped with two mountings on their bodies, one tank which is suitable for gasoline and the other for fuel oil. During the summer, when the demand for fuel oil is very low, we take off that tank, store it for the summer and replace it with the gasoline tank. Thus we need fewer trucks. We also change the more or less conventional mounting, the flat bed, with a tank, the point being to keep in constant service the chassis, where the largest part of the investment lies.

GMC Gets Truck Order

General Motors Truck Co. is the proud recipient of an order for 1000 trucks from the U. S. Department of Agriculture. All trucks included in the order are Model T-16 1½-ton units equipped with 1½-yd. dump bodies.

Clendaniel IHC Baltimore Manager

J. H. Clendaniel, Jr., has been appointed manager of the Baltimore branch of the International Harvester Co., succeeding E. D. Cummings, retired.



DEFINITE PURPOSE TRUCKS

- Model 19A HUG
Definite Purpose
Commercial Truck
with special re-
frigerating body.

Owners and Dealers

everywhere have learned from experience the value of the definite purpose principle used in building Hug Trucks to meet specific conditions. Hug offers a complete line of Definite Purpose Trucks for commercial hauling, dump truck work and tractor hauling operations in addition to the famous Roadbuilder series.

The Hug principle is based on the proven fact that, for greatest efficiency and economy, there's no such thing as an "all around truck." Hug reputation has been built by HUG performance—the result of careful, thorough selection of transportation units to do definite jobs.

Hug models are available with full Diesel engines—cab over engine design, dual drive rear axles, and can be furnished to meet any requirement for pay loads ranging from 5,000 to 40,000 pounds. Let your next equipment be Hugs—your cost-per-mile records will show you the difference.

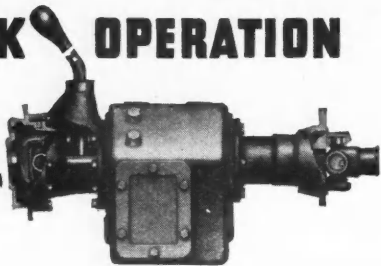
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GUIDING THE WAY TO LOWER COST-GREATER PROFIT TRUCK OPERATION



Truck operating profit is what counts! The Watson Compound increases profit and lowers operating costs by increasing tonnage and decreasing time losses, oil and gas consumption, and wear-and-tear. From the 12 forward speeds developed by the Watson over, under and direct gears there is exactly the correct one for every load or road condition. **52% more pull** when needed

**For 1934 and '35
FORD
and
CHEVROLET
TRUCKS**

**ALSO FOR OTHER MAKES
UP TO 3 TONS**

or **23% fewer engine revolutions** for light-fast hauls. The **23% fewer intake strokes** of the engine are an immediate cash saving on gasoline alone! Every truck operator knows from the "feel" of his truck that standard transmission ratios are too far apart for every road and load condition. He often loses road time because one gear won't quite make it and the next is much too low. The Watson Compound splits the gears and puts **two extra** ratios between each standard ratio as well as adds a higher-high and a lower-low. For lowest overall operating costs install a Watson Compound—there is no other auxiliary unit that so fully meets all trucking requirements. Easy to install—low in cost. See your truck dealer or write us today!

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TRANSMISSIONS**

BROWN-LIPE BUILT

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areas still available in U. S. A.

H. S. WATSON CO.
522 - 4th Street, San Francisco, Calif.

A Good Leg is a Legacy When Stake is Safety

(CONTINUED FROM PAGE 23)

truck buster but never collides unless something breaks. Frames, gear keys and such crack or strip under this leg. A truck descending a winding grade may pull up with the differential spider stripped as a result of a brake thrust from this leg.

The Despair leg is skinny and never sure footed. Stumbles over its own feet occasionally. It is quick enough but lacks punch and as a result is compelled to ride the brake pedal at times

because of inability to control the truck any other way. It stops a truck a few feet ahead or behind the mark and it is a brake lining waster.

Characteristically, the Sampson leg is fully sensitive and gives the owner warning of changing brake conditions. The Atlas leg is the least sensitive and tells its owner little or nothing. The Hercules leg is super-sensitive and tells its owner the condition of the brakes after one application. When the Despair leg steps on the brake pedal it does a good job if the pedal is soft but on a hard pedal the stop is doubtful because its owner's weight is the limit of the pounds' pressure exerted.

Most legs, short or long, are but combinations of these four types described here. For me to pretend a full knowledge of legs would be folly. What I say is from experience by observing and doing service for the different types of legs.

NOW let's get below the pedal and let the human side of the brake system alone before physical culture man MacFadden catches us. There are any number of things that can be done with the brake system that will make it a little easier on the leg department.

Some trucks must be washed each day. We have found that some brands of lining are less affected by water than others. In our fleet the trucks that get the daily wash get the nearest water-proof lining. One brand of lining starts off with squeaks and later becomes quiet. Another is quiet at first and later develops squeaks. If the noise is present only in the forward stops and absent in the backward stops or vice versa, we go to work on centralizing the brake shoes. If the squeak persists we often find that a slick glassy place on the lining is the middle of a squeak or groan. It can be cured by cutting a $\frac{1}{8}$ in. slot through the lining. On one truck I cut the lining between two-thirds of the rivets before we got rid of the noise.

SHORTENING lining fade at the toe of the shoe relieves wheel snubbing—especially the toe meeting the turn of the wheel. On our hydraulic brake jobs we install a reservoir tank on the dash if there is any indication of a fluid shortage in the regular system. This is probably easier on the driver's nerves than on his leg. If we find one drum on a hydraulic brake job hotter than the others we immediately check to see if the release springs are all they ought to be.

The lining when slotted seems to run a little cooler and consequently lasts a little longer and the reservoir tank for hydraulic fluid saves time when it comes to refilling, so both of these measures probably pay for themselves from an economical standpoint.

After a great deal of experimenting on a cable controlled brake we finally drilled for anchor hole in the frame and matched the sag of the other cable and got equalization that we were not able to get in any other way.

However, the four types of legs which I have classified play an important role in brake efficiency and brake maintenance. The leg can make or break the best braking system and ruin the finest brake lining. Look to your driver's legs as a matter of preventive maintenance.

Operators Rally to Hold National Body

(CONTINUED FROM PAGE 15)

major and minor amendments to the Eastman bill.

ONE major amendment would provide for an increase in the membership of the Interstate Commerce Commission and the creation of a separate division to administer regulation. The membership would be increased from 11 to 13, and the separate division would be known as the Highway Division. The I.C.C. at the present time is organized in divisions on a functional basis; that is, one division deals with rates, another division deals with operations, and so on. The trucking industry believes that motor carrier control ought not to be handled as collateral to functional control of rail carriers. It fears that a separate division will not be constituted by the I.C.C., and supports motor carrier legislation with the expectation that the principle of an increased number of commissioners and separate divisions will be included in the legislation. This demand has the support of the Federal Coordinator of Transportation since he seeks a similar accomplishment in a separate bill which was introduced in both houses of Congress but which the President, in his special transportation message, indicated would have to be deferred until the second session of the Seventy-fourth Congress. Thus the trucking industry, so far as its own interests are concerned, seeks by amendment now only that which the Administration wishes accomplished later by a special law.

Another major amendment would have the Highway Division of the I.C.C. "provide for the use of an organization of motor carriers representative of motor carriers of property to promote and assist compliance, to obtain reports and information on highway transportation, and to conduct research within the field of motor carrier transportation, in the public interest, in the interest of efficient transportation and of the national defense."

A THIRD major amendment, made necessary to provide, for the above industry organization, funds to cover the cost of things done under the act, would authorize the I.C.C. to require the display by motor carriers, upon each vehicle of "a suitable identification plate or plates, and the payment of an annual fee therefor in such amount as may be fixed by the Commission as reasonable."

The minor amendments would (1) include drive-aways—the driving of

automobiles from factory to distributor in competition with trucking and rails—in the Eastman bill; (2) specifically state that "the Commission shall have no power to refuse an application for a certificate of convenience and necessity on the ground that there are existing railroad or interurban railroad transportation facilities sufficient to serve the transportation needs of the territory involved" in order that motor carriers may be assured of treatment as separate facilities and the public not denied the use of motor carrier service to protect rails from truck competition; (3) prevent the necessity of a finding by the I.C.C. as a condition precedent to a motor carrier purchasing a new truck; (4) giving to the I.C.C. the right to make rules and regulations respecting rates and tariffs.

The Legislative Committee will also seek a change in the effective date of the grandfather clause. In the Eastman bill as written the date is Dec. 31, 1934. The committee is empowered to get the best possible period, although a date "60 days prior to the passage of the bill" apparently had unanimous support.

The future of the American Trucking Associations, Inc., was taken up at an open meeting of the board of directors. Before taking up the recommendations of the Policy and Executive Committees the meeting listened to a brief but wisely worded talk by Charles P. Clark, formerly NRA deputy in charge of the Trucking Code.

"FEDERAL regulation should not be the sole or main object of the national organization," Mr. Clark said. "There is \$970,000,000 invested in the trucking industry. Public opinion needs to be influenced. Thought should be given to the perpetuation of the American Trucking Associations for the purpose of educating the public to think favorably of the large trucking industry."

He mentioned the possibility of formulating fair trade practices and carrying them out with the supervision of the Federal Trade Commission and concluded by declaring that the trucking industry should "plan, think and act in unison."

He found the industry prepared to follow the advice.

The financial status of the A.T.A. was revealed in short order. The Chicago convention prescribed the method by which dues should be paid by affiliated associations, but of the 75 associations belonging to the A.T.A. 47 to date have not paid a cent into the national organization. The remaining 28 have paid in less than \$8,000. It was tentatively estimated that \$100,000 was needed immediately to continue the A.T.A., and that \$250,000 would have

to be raised during the year. This fund would be raised on the basis of special fees and quotas for each state. Plans will be worked out by the Finance and Executive Committees.

Meanwhile working funds are needed and President Ted V. Rodgers made an earnest plea that operators present make voluntary contributions. The operators responded with cash, checks and pledges to the extent of \$12,870. A notable example was set by A. L. Raulerson, a common and contract carrier of Jacksonville, Fla., when he stated that he had put the A.T.A. on his payroll to receive \$100 a month. Others followed the example—a splendid one for those operators who expect to profit most by having a national organization fight their battles. The voluntary subscriptions are expected to be greatly increased by the contributions of hundreds of large operators who did not attend the meeting.

THE meeting made it clear that these voluntary contributions could be made applicable to the special service charge which was set up by an amendment to the A.T.A. by-laws. This was as follows:

"Special membership classes of operators may be established by the Executive Committee with dues payable direct to the corporation, based on services rendered or to be rendered. Such membership shall not confer any right in the member to exercise the right of franchise except as such right may exist through an affiliated association nor shall it alter the responsibility or relationship of this corporation to its affiliated association."

By this means, those operators who expect services—and services will be expected and needed if Federal regulation passes Congress—will pay for services received and not create a burden on other operators who have no need of such services. This by-law also enables the national organization to accept the membership of operators in localities where there are no state associations.

PRESIDENT RODGERS, in this connection, again emphasized the need for strong state associations and the need for unification in states where several associations exist. He scouted the complaint that the new by-law would set up competition for members between the state associations and the national. The A.T.A., he declared, must always depend upon the affiliated membership of state associations because it is a political necessity to speak in great numbers. But, he frankly stated that many state and local associations need supervision. A lot of them are badly managed. Some of the associations are merely the personal rackets of secre-



Out-of-line wheels require more gas and oil for power to push the vehicle. Misalignment also causes excessive tire wear.

Correctly aligned wheels save gas and oil because less power is required to roll the vehicle. Proper alignment also insures longer tire wear.

Cut YOUR GAS and TIRE BILLS



Misalignment is the demon that eats up gas and oil. Be sure that your fleet is delivering the greatest possible mileage.

Check all wheels with the No. 25 Bear Master Alignment Gauge.

In order that wheels roll straight and true—all alignment angles must be maintained at the manufacturer's orig-

inal specifications. The Bear No. 25 Camber and Toe-in Gauge tells the alignment condition of wheels quickly and accurately. This Master Gauge is the standard of alignment practice in the country's leading shops. An investment in the No. 25 is certainly low cost insurance on the big dividends that result from greater gas mileage and longer tire wear. See it at your jobbers, or write direct to us. Bear Manufacturing Co., Rock Island, Ill.



BEAR MASTER CAMBER & TOE-IN GAUGE NO. 25

The only Gauge that checks BOTH camber and toe-in from center line to center line on both wheels at the same time. Accurate and fast—with checking dials graduated in degrees and inches. True as a die. Fits all cars, trucks and buses.

taries, he said. They collect dues for their own salaries and don't do a thing for the money they receive. The little fellows in the trucking business, he said, have been preyed on by such association organizers. It will be one of the duties of the national body to help state associations with their organization problems.

Another amendment to the by-laws stipulated that applications for affiliation with the A.T.A. may be made by any state or local association of highway vehicle operators, the application

to be accompanied by such information as may be required with reference to membership dues, scope of operation, copies of articles of incorporation and by-laws.

Particularly serious debate preceded the adoption of a resolution endorsing the "establishment of a divisional organization of over-the-road interstate carriers and of other divisions within the A.T.A., as provided by the by-laws."

When the resolution was proposed President Rodgers sounded the fears

of the majority in a statement to the effect that the organization of divisions within the parent body was doubtless a good thing in order to permit the different groups to get together on their own particular problems. But, he said, there would be cause for alarm if the movement merely provided jobs for lawyers, set one division against the others and resulted in a general impression that the American Trucking Association was without unity.

OTHERS joined him in declaring candidly that common carriers had better get it into their heads that they cannot work alone on national matters. The big operators were cautioned to realize that they must have the little fellows if they want to go places "on the hill." In talking to legislators a most important question to which they want an answer is "whom do you represent?" And in order to make an impression the trucking industry must be represented in its entirety—not by just a small part of it.

"The national organization must be preserved," President Rodgers declared. "One central head is needed—or we're through."

Meeting dates for organization of the divisions will be set by the president. The first meeting—of over-the-road interstate haulers—was scheduled for July 1 and 2.

The fate of the Eastman bill, at the time of the A.T.A. sessions, was as much of a mystery as ever. It was still in the House subcommittee and a general impression prevailed that the commerce committee itself was deferring action until it had disposed of the pestiferous holding company legislation. One report made to the writer by an agency that has done some reliable gum-shoeing in the past, indicated that Administration pressure on the subcommittee had resulted in cleaning up objections to motor vehicle regulation. If that is so, you may expect swift action after the holding bill is acted on by the House.

Dodge Shifts Field

The following field staff changes have been made by the Dodge Division of Chrysler Motors.

H. H. Hamilton is now district representative in the North Detroit district, succeeding W. W. West, transferred to the Detroit City district. F. H. Link is now district representative in the Albany district of the New York region, succeeding R. H. Gunn, promoted to regional merchandising manager. E. J. Graham is Boston regional merchandising manager, succeeding C. A. Brophy. F. C. Doggett is district representative in the Cheyenne district, succeeding H. C. Campbell, transferred to the Wichita district.

Get Electric Brakes and PLAY SAFE!



There's no substitute for electricity when speed and action are wanted and needed. That's why Electric Brakes are faster acting, smoother, and

have more power than any other power brakes. Get the facts today. A 3c stamp will save you thousands of dollars in upkeep and operation.

Always Equalized • No Adjustment Needed!

ELECTRIC BRAKES

MADE BY WARNER ELECTRIC BRAKE
MANUFACTURING CO. • BELOIT, WISCONSIN

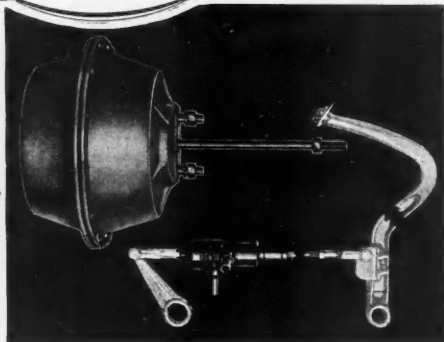
**Electric Brakes are now
being used by:**

**PILLSBURY MILLING CO.
STANDARD OIL
BORDEN DAIRY
A. & P. TEA COMPANY
ARMOUR & CO.**

JULY, 1935

Now **LATHAN-BESLER** Announce

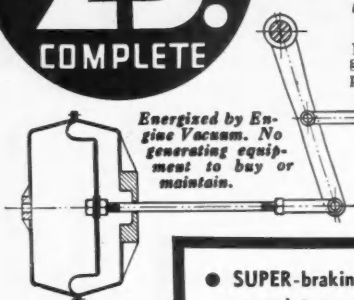
AN Engineered **POWER BRAKE** OUTFIT



for **FORD and CHEVROLET TRUCKS**

LIST PRICE

\$25.
COMPLETE



In sketch above, note that LATHAN-BESLER diaphragm-type chamber is **FRictionless** in operation, hence lasts longer and requires no lubrication, no maintenance. Note also how **SUPER-braking** power is obtained and transmitted **DIRECT** to brake mechanism — no power loss.

THIS LATHAN-BESLER diaphragm-type **FRictionless** power brake requires **NO OILING** or greasing—**NO MAINTENANCE**. Takes power brake safety out of the luxury and expense class. **LATHAN-BESLER** engineered features, favored year after year by the country's biggest operators, combined in an easily-installed power brake for **FORD** and **CHEVROLET** Trucks, at \$25 complete.

- **SUPER-braking** power without lubrication or maintenance cost.
- **ENGINEERED** for responsive control, long life, and absolute dependability.
- **QUICK**, easy installation without changing present brakes or preventing their manual operation.

USED BY NATION'S
LARGEST OPERATORS

LATHAN CO., Inc.

SAN FRANCISCO, 1454 Pine St.

DETROIT, 477 Selden Ave.

Before buying ANY power brake, be sure to get the full facts on **LATHAN-BESLER**. Write **TODAY**, and have this information handy.

LATHAN SINCE 1911

A
LATHAN
product

NEWS

(CONTINUED FROM PAGE 44)

Thermoid Elects Schluter

Fred Schluter was elected president of the Thermoid Rubber Co., Trenton, N. J., at a recent meeting of the board of directors. Arthur B. Dougall was made director of replacement sales.

"Highway Source Book—1935"

A loose-leaf book entitled "The Highway Source Book—1935" which contains a compilation of the most important data on highways and taxation and regulation of motor transport has been published by the National Highway Users' Conference. A comprehensive index is one of its features.

Marvel Appoints Strohm

Harry Strohm has been appointed sales engineer at the new Detroit office of the Marvel Carburetor Co., a Borg-Warner division.

Hercules Moves Western Office

Hercules Motors Corp. has moved its west coast representative's office from 613 Russ Building, San Francisco, Cal., to Room 523, Transamerica Building, Seventh and Olive Streets, Los Angeles.

Heil Co. Expands Plant

The Heil Co., Milwaukee, maker of motor truck bodies and hydraulic hoists, is spending about \$50,000 in plant improvements, including a new mounting plant for the installation of motor truck equipment.

Gormley Is PMTA President

The Pennsylvania Motor Truck Association held its annual convention in Philadelphia June 20 and 21 and elected the following officers: Harry Gormley, president; Maurice E. Trexler, secretary; A. D. Aldrich, treasurer; Fred P. Corter and James M. Naye, first and second vice-presidents at large. The feature of the convention was a safety session attended by 2400 persons. Governor Harold Hoffman of New Jersey, and Ted V. Rodgers, retiring president, spoke. At the second day's session H. R. Barnett presented the results of his investigation for COMMERCIAL CAR JOURNAL of the effects of regulation.

Arnold Heads R. I. Operators

At the annual meeting of the R. I. Truck Owners Association, held recently, the following officers were elected to serve for the year 1935-1936: President, Percy F. Arnold; vice-president, Franklin C. Sutherland; treasurer, Ernest Harrall; secretary-manager, Roger E. Hard.

U. S. Truck Co. Elects Officers

At a recent meeting of the stockholders and board of directors of the U. S. Truck Co., Inc., in Detroit, the following officers were elected: C. W. Behrens, president; R. J. Jones, vice-president and general manager, and E. M. Stoker, secretary-treasurer.

Macauley Heads AMA

Alvin Macauley, president of the Packard Motor Co., has been elected to head the Automobile Manufacturers Association for the seventh consecutive term.

Twin-Coach Experiments with Diesel

Twin coach is placing in experimental operation one of their streamlined buses with Hercules Diesel engine set cross-wise in the rear. The arrangement is similar to and interchangeable with the present rear drive. The Diesel engine is inclined slightly with respect to vertical, for clearance.

Studebaker Receivers' Report Is Filed

The last formality in winding up the old Studebaker Corp. receivership is on file in Federal Court in South Bend in the form of a final report of the receivers, Paul Hoffman, Harold S. Vance and A. G. Bean. Judge Thomas W. Slick of the Federal Court, approved the report.

Seat Cushion Filler Available in Sheets

To satisfy a growing demand on the part of large fleet operators, the Sponge-Aire Seat Co., Inc., of Buffalo, N. Y., announce that their patented seat cushion fillers can now be obtained in large sheets.

This new policy permits fleet operators to quickly cut out sizes and shapes required for rush jobs.

Piper Picked by Johns-Manville

C. M. Piper has been appointed general manager of the automotive materials department of the Johns-Manville Corp.

COMMERCIAL CAR JOURNAL

TOO SOFT FOR TRACTION . . .

*But not
for the
HIPKINS
TRACTIONEER*



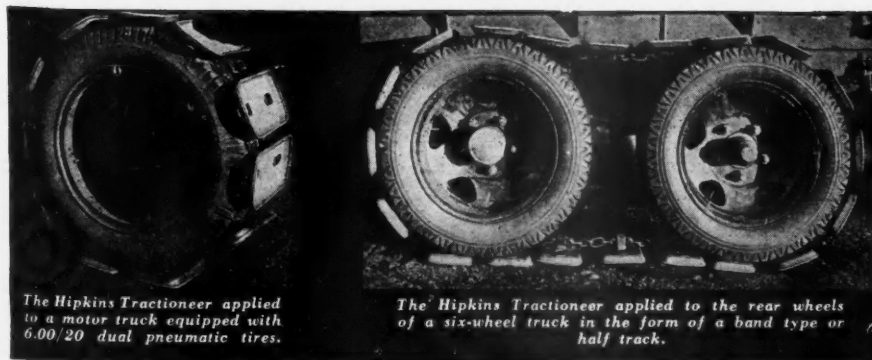
This soft field, which otherwise could be worked only by tractors or horses, is now being disced with power furnished by an ordinary truck equipped with The Hipkins Tractioneer. This is but one example of the broader usefulness of vehicles employing the higher flotation and more tenacious traction which The Hipkins Tractioneer provides.

Fire engines driving over cross-country, road graders working in soft, marshy ground, trucks with hills to climb and ruts to negotiate, have speeded up operation, or

expanded the day's volume of work, even under forbidding weather conditions, by utilizing The Hipkins Tractioneer—the portable roadbed that can be quickly applied, and as speedily removed when not in use.

To learn specifically what benefits The Hipkins Tractioneer can bring to the vehicles which you build, sell or operate, send for the story of higher flotation, by mailing the coupon . . . Tractioneer, Inc., National Distributors, 11th and Hamilton Streets, Philadelphia, Pennsylvania.

Preparing a field for sowing is an unusual job for an ordinary truck. It would be impossible without The Hipkins Tractioneer.



The Hipkins Tractioneer applied to a motor truck equipped with 6.00/20 dual pneumatic tires.

The Hipkins Tractioneer applied to the rear wheels of a six-wheel truck in the form of a band type or half track.

The HIPKINS TRACTIONEER

the portable roadbed that carries you through

Manufactured by BY-PRODUCTS STEEL CORPORATION, COATESVILLE, PA.

Send for (NEW EDITION)
This Booklet

TRACTIONEER, INC.,
11th and Hamilton Sts.,
Philadelphia, Pa.

Send a copy of your booklet on The Hipkins Tractioneer. We are ☐ fleet owners ☐ dealers ☐ truck manufacturers.

Name and Title

Company

Address

City and State

JULY, 1935

Evil Effects of Evil Regulation

(CONTINUED FROM PAGE 37)

itself, by truck from Youngstown, Ohio, than to service the territory by rail from the nearer warehouse at Pittsburgh.

There is a note of irony in the fact that one merchant with whom I talked was a stockholder and director of one of Pittsburgh's largest hardware concerns, which could have supplied many of the materials from his business needed, while he bought nearly all his supplies from St. Louis, Chicago, New York, and such distant points! It requires a minimum of five days to get things from Pittsburgh less than 80 miles away. The difference between the interstate truck service and the intrastate rail carriage of merchandise is almost incredible.

MR. SMITH, owner of the Builders' and Manufacturers' Supply Company, St. Mary's, gave me a typical illustration, in an order for 920 windows, each with four lights, trucked from a Buffalo wholesaler by the Boss Transportation Co., an interstate trucking concern. Had these been ordered from Pittsburgh or

Philadelphia delivery would have been effected by rail, no alternative being available. The crating in accordance with railroad requirements would have increased the cost by \$12, and possibly a week would have elapsed before receipt of the goods. The Buffalo house gave delivery within 24 hours after the order was telephoned and no crating was necessary.

MR. SPAULDING, a jobber dealing in food specialties in Meadville, answered my questions concerning handling of merchandise by taking me into his warehouse and exhibiting a newly arrived shipment of edible nuts that had come by rail. The nuts were put up in cellophane envelopes, to be sold for a nickel each, ten packages to a display card, and ten cards in each strong carton. The shipment was worth, at cost, \$100. Half of the cellophane packages were torn loose from their cards and the contents spilled and ruined by rough handling. Mr. Spaulding had decided not to claim, for he knew from experience that a week would pass before an inspector would call to check the condition of the parcel, and by that time the remainder of the consignment would be unsalable.

Another remarkable story is that concerning some valuable iron castings

delivered by the railroads to Rogers Brothers, Inc., engineers of Albion, Pa. One casting, valued at \$800, was broken. A claim for this upon the railway was met with assurances that after some mere formalities had been cleared up the claim would be met, and in the meantime, to keep the books straight, would Rogers Brothers be so good as to pay their \$2,000 bill for freight? Being gentlemen, believing they were dealing with gentlemen, Rogers Brothers paid the bill. For two years nothing more than fair words from railroad attorneys was forthcoming. On the first day of the third year a letter was received from the railroad that under the Statute of Limitations Rogers' claim was now no longer valid! The strange part about the Statute of Limitations is that the railway may take suit within three years for any claim it may have against the public. Is there cause for wonder if Rogers Brothers now give all the traffic they can to the highway?

THE advantage of simple classifications and the ability to consolidate shipments without red tape and expense is of the greatest advantage to one big chain store company. Their traffic manager declared that this gave the highway an overwhelming advantage in feeding numerous branches in

BROWN-LIPE HELICAL GEAR TRANSMISSIONS ●

We are prepared to furnish Brown-Lipe Helical Gear Transmissions, with 3, 4, 5 or 8 speeds forward, for any type of commercial vehicle.

Spicer

MANUFACTURING CORPORATION
TOLEDO, OHIO

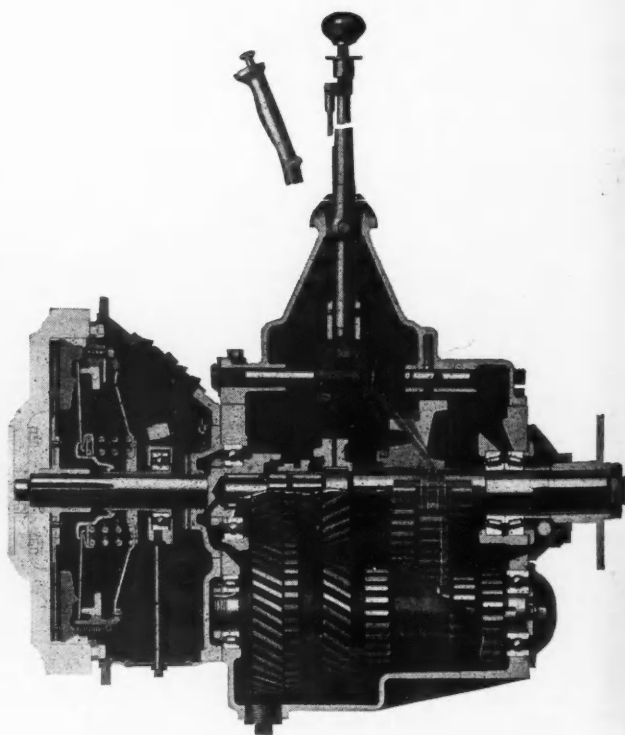
BROWN-LIPE
CLUTCHES and
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Transmission



COMMERCIAL CAR JOURNAL

the west of the state from their Philadelphia warehouse.

George S. Daugherty & Sons, one of the largest companies of its kind in the state, supplying groceries and canned goods to institutions, points out that nearly all their dealings are with women. They state that in dealing with the housekeeper of a hotel, or the matron in charge of hospital and school, the courtesy and personal service of the truck driver is a distinct advantage. He does not regard it as an imposition if a lady requests him to move the package into the back room or down to the basement, and this is something the best of railroads cannot offer to Daugherty & Sons, although it would be worth a premium on the freight for the good-will it brings.

There is perhaps no stronger argument for a more understanding and liberal policy on the part of the Pennsylvania Public Service Commission in dealing with the transportation needs of the public, the merchant, and the manufacturer, than the fact that they have unhesitatingly granted unlimited highway transportation for the carriage of liquor for the State Liquor Board. The Pennsylvania Transfer Co., subsidiary of the Pennsylvania Railroad, carries liquor from the Try Street Terminal, Pittsburgh, to more than sixty

liquor stores in 17 counties, and the franchise will probably be extended to 10 more counties when a recent application is dealt with. Liquor is a state monopoly! The companies that have the effective liquor-trucking franchises are nearly all railroad affiliates! A little delay in transit does not affect quality, does not lock up private capital, does not cause sales to go elsewhere—for there is no other legal source of liquor in Pennsylvania—but the state must have all the highway transportation by for-hire carriers, that it calls for. The merchant and manufacturer, in their never-ending competitive battle, dealing in style merchandise that does not permit large inventories, must struggle along with the sketchiest of rail services. Surely this is less than just.

If the attitude of the commissioners is adjudged to be arbitrary and against the trucker, it is because their deeds are the only evidence by which we can judge them. It seems obvious that the primary consideration in considering all such services should be the needs and the welfare of the communities to be served by any proposed service. There is no evidence that these factors weigh at all. The availability of rail service—however poor in quality—seems to be almost the sole guide.

It is possible that the commissioners would reply to criticisms of their general policy by pointing out there are in operation some 6000 certificated highway carriers in Pennsylvania. What are they worth? I have already mentioned what the trucking industry calls "strangulation" certificates. Many are limited to special commodities, such as coal, or furniture. Thousands of call and demand truckers may not venture more than 15 or 20 miles from their home town. Others are but local draymen. The for-hire trucker who can be of service to industry and business in general in Pennsylvania represents but a tiny percentage of the total.

Washington, Pa., presents a picture in miniature of what is happening in more than 20,000 square miles of Pennsylvania. Here are some 40 carriers permitted to haul for hire. One has a state-wide permit to carry household goods to any point in Pennsylvania from Washington County. Another may transport parcels not exceeding 70 lb. each to and from Pittsburgh. Some are merely dump truck operators confined to local business. The remainder are call-and-demand and contract carriers limited in most cases to a 15-mile radius of action, and none may exceed 25 miles. It is to be noted that Pittsburgh is just 28 miles from Washing-



"2,709,745 MILES WITHOUT A MAJOR FAILURE"

**SOLD AND SERVICED BY
STUDEBAKER TRUCK DEALERS
AND AUTOCAR BRANCHES**

That's the record rung up in four and a half years by the 20 Edwards semi-trailers of E. E. Mills Trucking Co., Inc. on "drags" from South Bend to Cleveland, Detroit, Indianapolis, Toledo and elsewhere. "We have one of our original Edwards jobs on which we have never even changed a spring hanger," says Mr. Mills. That's typical of Edwards service all over the world. Investigate these Edwards semi-trailer chassis and bodies. They're built to tackle tough jobs and last longer—and priced for greater value at less money.

EDWARDS

EDWARDS IRON WORKS, INC., SOUTH BEND, INDIANA

**QUALITY
SEMI-TRAILERS**

ton. The two railroads and the electric railway line cannot give delivery before the next day to any merchant even over this short distance, while trucking service can connect these important industrial centers with a two or three-hour service. Of course, this important manufacturing and commercial center has no highway common carrier or other general for-hire trucking to such major Pennsylvania towns as Erie, Bradford, Philadelphia or Harrisburg.

AS was mentioned in an earlier issue of *COMMERCIAL CAR JOURNAL*, some communities, particularly in the eastern part of the state, enjoy fairly good highway transportation for merchandise, but this was conceded, in most cases, before 1930. It was subsequently that the commissioners seemed to lose sight of the fact that their primary duty was to the people of the Commonwealth, whose servants they are supposed to be, and those places that did not have the luck or foresight to ask for legalized highway services prior to 1930 have met with an almost insuperable barrier.

At the beginning of this year the office of the Public Service Commission issued a bulletin requesting suggestions for the improvement of the present rules and regulations under which they administer highway transportation, which rules are known as general order 29. It would be futile to amend general order 29—not in itself particularly inimical to the welfare of the shipper and merchant, nor to the trucking industry, except in minor respects—if the amendment is not accompanied with a new appreciation of the requirements of modern transportation, the needs of business, and the true functions and possibilities for great service inherent in modern trucks upon modern highways.

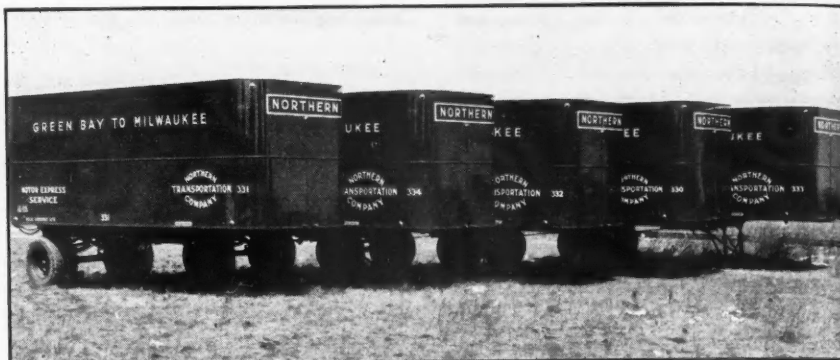
Porcelain Enamel

(CONTINUED FROM PAGE 48)

6. A direct hit on a porcelain enamel panel sufficient to dent the metal may result in a chipping away of the outside coating of porcelain enamel, but will likely have no effect upon the first or dipped coating which is actually fused into the metal sheet. Such a break can be readily repaired by glazing and painting with lacquer or synthetic, in much the same manner as a similar dent in a paint job, or if necessary the panel may be removed and replaced with a new porcelain enamel panel.

7. The porcelain enamel panel can be hosed off, wiped off or even scraped

Northern Transportation Co.



Specifies PLYMETL & PHEMALOID

The Northern Transportation Company, like all of us, is in business to make money. In the transportation business every pound saved in body construction means an extra pound in payload each trip. Consequently, Northern specified Plymetl and Phemaloid "lightest and strongest" body materials in their new trailers.

The Fruehauf Trailer Company, builder, was able to save hundreds of pounds in the construction of these bodies. Is this of interest to you as an operator? By specifying Phemaloid and Plymetl in your bodies, you can make the same weight saving.

HASKELITE MANUFACTURING CORPORATION

208 W. WASHINGTON ST., CHICAGO, ILL.

without in any way affecting its appearance. In fact posters may be glued on and removed without damage to the surface or leaving a tell-tale outline.

We have had one unit in service for four months and it looks like new. Two more units went in service recently and three more are under construction. Experience will no doubt dictate some changes in our methods, but we feel that we are on the road to real savings in the cost of "keeping up appearances."

Triphagen Reo General Sales Manager

C. A. Triphagen, Reo's sales manager for the past year, has been named general sales manager in charge of all selling operations.

W. Ward Mohun, assistant Reo sales manager and one-time head of truck sales at Willys-Overland, succeeds Mr. Triphagen as sales manager in charge of the domestic division. C. E. Boutelle, who has been in charge of the eastern division, becomes assistant sales manager of the domestic division.

for durable Larcoloid Jobs—



Larcoloid Characteristics

1. Acid and alkali resisting.
2. Dries hard in one hour.
3. Out of tack in 30 minutes.
4. Has adhesion second to none.
5. More durable than lacquer.
6. Easily sprayed or brushed.
7. Leaves no brush marks.
8. Safe—contains no gun-cotton.
9. Has high insulating quality.
10. 37 colors and black and white.
11. Apply on any clean surface.
12. No trick thinner needed.
13. Not affected by alcohol.
14. Clear Larcoloid will not print.
15. Does not raise undercoats.

No Other One Finish Possesses All The Characteristics Found in Larcoloid.

Approved by Automotive Finishers

LARCOLOID is now being used by automotive finishers in practically every State in the Union. Where spray equipment is available, Larcoloid is now being applied on every type of motor vehicle. Actual comparison has proved that Larcoloid will give from 50% to 100% more covering than a nitro-cellulose lacquer. Finishers using Larcoloid are able to apply it on an automobile body with spray gun or brush in a smooth even coat that dries with a high luster, absolutely eliminating the necessity of rubbing and that sort of expensive labor connected with a lacquer job.

Write for descriptive circular.

Larkin Co Inc. Paint Division, Buffalo, N.Y.



Specially Built

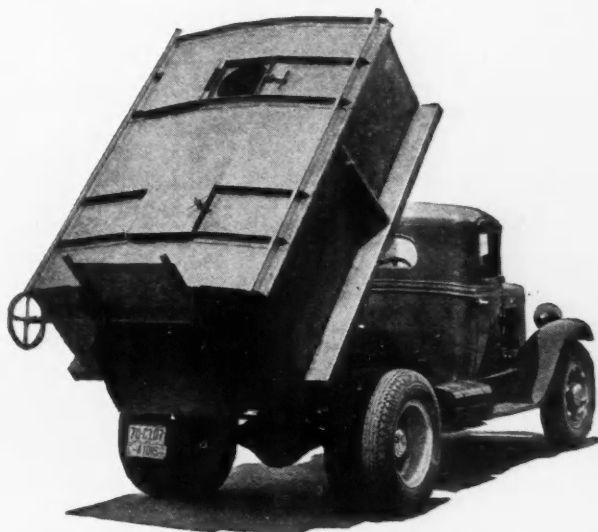
Offers many savings to the contractor by handling bulk cement direct to the job. Handles 3 cubic yards of cement (has a capacity of slightly over 4 yards to take care of increase in bulk when taken from the hopper). Loaded through two water-tight openings in the top. Completely covered with 10 gauge steel, pitched to shed water, and welded around the entire top. Equipped with running boards and hand rail. Bottom corners rounded and side braces prevent body bulging from cement packing in transit.

Inside of the body at the rear, corner baffle plates are installed to direct cement to the opening chute. Rack and pinion type tailgate, giving ample leverage to operate easily to any desired height. A 12" chute assists in giving wind protection when discharging the cement. A St. Paul Model 52UB Hoist is used for elevating.

There is a St. Paul Hoist and Body to fit every need.

Full particulars sent upon request

Bulk Cement Body



ST. PAUL HYDRAULIC HOIST CO. 2207 UNIVERSITY AVE. S.E. MINNEAPOLIS, MINN.

There is no Substitute for a **CHICAGO GOVERNOR**

(Regular \$11.50 List Price)



No **\$5.75**
other Governor
has these features

AS in your business—high pressure selling will not substitute for service nor claims for performance. There is no substitute for the simple, compact, trouble-proof and permanently accurate CHICAGO non-crystallizing compression coil spring action. There is no substitute for the 3-point protection that makes CHICAGO Locksit GOVERNORS tamper-proof in fact; no substitute for the extra life built into CHICAGO GOVERNORS; nor any other Governor that carries an unconditional 2-Year Free Replacement Guarantee. No other Governor makes an absolute statement of savings and sells on 30-Day Free Trial—no other invites you to test before you buy—on your own fleet, under your own working conditions. No other quality Governor has a published Net Price, for no other Governor can meet our competition, on a fair test.

Savings

- 20% Gasoline
- 40% Oil
- 40% Repairs
- 45% Tires and Brakes

and eliminates cause for 65% of accidents.

Check the Savings Chart

Here are the Savings you can get with CHICAGO GOVERNORS. Estimate roughly what they can mean to your profits. Send in the coupon—we'll send the Governor. Test it out yourself and know before you buy.

Just Pin This Coupon to Your Letterhead

CHICAGO GOVERNOR & MFG. CO.
511-513 S. Laflin Street, Chicago

Gentlemen:

☐ Send.....CHICAGO GOVERNORS according to your special offer on 30-day Memo Billing.

☐ Make and Model.....
Approximate Speed Desired—M.P.H.....

☐ Send.....NO RIDERS Stickers, FREE

Signed

Firm Name.....

Address

CityState

Operators! Beware of RACKETS

In the Name of the Law

(CONTINUED FROM PAGE 25)

ends. Sometimes they prove that they can be sympathetic. They permit their victim, usually a driver, to pay the toll in installments.

Lacking the wide powers of the police but using the powers they possess with dexterity to overcome the handicap are the weighmasters. Being fewer in number these men do much better for themselves individually than do the other officers. One philosophical fleet operator was heard to remark that he would gladly trade his fleet of trucks for a weighmaster's scale—if given authority to use it.

The weighmasters roam the state and their word is law. Sometimes they are accompanied by representatives of the railroads with whom they are very familiar and sometimes—get this—the trucks are weighed with portable scales which are the property of the railroad. A number of fleet operators have an unholy desire to get their hands on these scales and check them against scales that are known to be correct.

YOU may gather from that last statement that fleet operators are of an unusually suspicious nature, but then the case of the truck coming up from the South provides food for thought. The gross weight of the truck was known by the fleet operator. It was 41,900 lb. The legal limit for the truck and load was 39,000 lb. The overload was due to an increased shipment at the last minute but the overload was within the 10 per cent allowed by law and under the law the severest penalty that could be inflicted was that the overload would have to be unloaded. Coming north the truck was stopped and weighed. Despite the fact that the body was locked and the driver could not take on more load even if he wanted to, the weight had increased to 44,000 lb. The driver did not have the cash in his jeans to "kick in," so it cost the fleet operator \$52.50, which had to be wired from headquarters.

A number of fleet operators believe that if the various states were to abolish the salary paid to weighmasters a lot of them wouldn't resign.

After making peace, at a price, with all the enforcement authorities the fleet operator still has the judicial branch of the government to consider. The magistrates, it appears, are in the publishing business. From the fleet operator's viewpoint this publishing business

SpeedWay

Standardize on SpeedWays
Steel Bodies—lighter, stronger, handier. Stand up under all manner of abuse. Try to stall a SpeedWay, you'll find over-capacity—power to handle emergencies. For the last word in drill design—see the SpeedWay before you buy. Check features. SpeedWays cost much less, type for type.

More Drill for the Money

None can compare, still less, type for type.

SpeedWay Manufacturing Co.
1826 So. 52nd Ave., Cicero, Ill.

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DITZLER

AUTOMOTIVE FINISHES

PYROXYLIN LACQUERS
SYNTHETIC ENAMELS

Ask your jobber about the new
POLYCHROMATIC ENAMEL.

DITZLER COLOR COMPANY
DETROIT MICHIGAN
Standard in the automotive industry since 1902

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TOLEDO
VALVES
GUIDES
SPRINGS
KEYS
SEAT INSERTS

THE
TOLEDO STEEL PRODUCTS
COMPANY
TOLEDO, OHIO, U. S. A.

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... makes accurate and dependable analyses on the road ... as well as in the shop.

CAMBRIDGE
INSTRUMENT CO. INC.

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REDUCE UPKEEP



Use Tin-Plated Pistons to cut your maintenance costs. That is why they are original equipment on Chevrolet, Buick, Pontiac, Oldsmobile, Studebaker, Mack, White and GMC—and being seriously considered by others. Test them yourself, or write us for complete details.

CIRCO PRODUCTS CO., Cleveland, O.

COMMERCIAL CAR JOURNAL

High Speed
UNIVERSAL
Valve seat grinder set
FOR HARD & SOFT VALVE SEATS
3 CUTTERS-18 PILOTS



National Mach Tool Co. JACKSON MICH CHATHAM ONT

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B. & J. TRAILERS**
**HAVE GRAVITY
SPRING SUSPENSION**
Every Demonstration
Becomes a Sale
Write for bulletin
B. & J. TRAILER CO.
3915 S. Michigan Ave. Chicago

What's Your Truck Doing All Day?



**This Device Tells Every
Move the Truck Makes!**
Idle time—busy time—
day and night (and over-
time, too!)—all on a
waxed chart (see at left).
Here, for example, is a
2-hour delay, and you
can put your finger right on
it!—and then correct it!
Write for Bulletin C... The
Service Recorder Co., 1422
Euclid Ave., Cleveland, O.

THE SERVIS RECORDER



**WEAVER
CAR
WASHER**
Sprays 6 gallons
of atomized water
per gun per min-
ute. . . 300 to
350 lbs. pressure.
Requires less wa-
ter per car. . .
Has enclosed
drive.
Car Washer
One-Gun Washer, complete \$325.00
Two-Gun Washer, complete \$425.00
WEAVER MFG. CO.
Springfield, Illinois

**Write FOR YOUR
COPY, it's free!**



Complete handbook
giving practical ap-
plication methods for
the finishing of fleets,
commercial vehicles,
sales cars and pleasure cars.
A valuable book for your
automotive maintenance de-
partment, at no cost or obligation to you.
RINSHED-MASON COMPANY
Manufacturers of Automotive and
Commercial Vehicle Finishes
5935-71 MILFORD ST. DETROIT, MICHIGAN

JULY, 1935

must be very successful financially. The publication is a magistrate's paper which has neither been defined as a consumer paper nor a trade paper. The circulation is unknown; in fact not one fleet operator can remember ever seeing the publication. But they can remember paying for advertising in it—as a result of thinly veiled threats.

A FLEET operator located in a border city had a happy thought. He and others had been having an expensive time of it crossing an adjacent state. He made a proposal to his local truck association. The association acted on it and invited the head of the motor vehicle bureau of the adjacent state to speak at one of their meetings. The program committee had a session with the motor vehicle head just before the meeting and told him that they would like to have him answer the burning question. How could they operate trucks across his state without such a heavy voluntary contribution expense? The honored guest gave the program committee to understand that he was first a politician and second a state official and then proceeded to give them a regular chamber of commerce speech at the meeting.

Leaving our duly appointed protectors with the head man feeling the same as the rank and file, that is, that fleet operators are legitimate game with no closed season, we turn to another industry which theoretically is motivated by a desire to protect the fleet operator. Here we find that the fleet operator is in for another fleecing. The unscrupulous insurance broker has a racket all his own. It is, your friends in the insurance business will vaguely inform you, against the law. They will be equally vague as to which law it is against and when or where a case was ever prosecuted. It is referred to by the insurance people only when necessary and then by the term "twisting." The process briefly is this:

A broker forms a Traffic Manager's Bureau or a Traffic Men's Association. As long as calling cards are printed no one can stop him from forming it because all he does is have calling cards printed. The name must have the word "traffic" in it to get the desired effect.

THEN, armed with a pocketfull of cards the broker starts calling on firms which are known to ship by truck. He merely asks permission from the shipper (and sometimes this is omitted) to review the policies of the trucker who hauls the firm's shipments. Naturally, it sounds harmless to the shipper and if skillfully done it leaves him with a feeling that some cooperative



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ON FUEL LINE
ROAD FAILURE**

Titeflex
FUEL LINES ARE
ALL METAL
flexible
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**SAFE and SURE
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**SEND FOR
PRICES
AND
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**TITEFLEX METAL HOSE CO.
NEWARK, NEW JERSEY**



Write Today for Full Information About

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GRID CONSTRUCTION
Seat Cushions or Fillers

All Sponge Rubber Construction
Cheaper Than Springs • The Most
Comfortable Cushion Ever Made

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**SPONGE RUBBER
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MOTOR TRUCKS

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**TREMENDOUSLY
REDUCED
TON-MILE
COSTS!**
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STERLING MOTOR TRUCK CO., Inc.
MILWAUKEE, WISCONSIN

HERCULES POWER

Hercules engines, both gasoline and Diesel, have long been standard equipment on many leading makes of trucks, truck tractors and delivery units as well as urban and interurban buses, road building and maintenance equipment, industrial, oil field and agricultural machinery. Hercules provides an engineering service which includes a study of specialized power applications.

HERCULES MOTORS CORPORATION
Canton, Ohio, U.S.A.

America's Foremost Engine Manufacturer
Power Plants from 4 to 200 HP.

shipper's organization is going to see that his goods in transit have full protection. He does or does not give his permission. It makes no difference.

Then the broker calls on the fleet operator and tells him that the shipper has authorized him to go over his policies and see if the shipper is fully protected. If possible he takes the policies with him. If not he glances over them and tells the operator of a number of hazards that the policies do not cover. Of course, the shipper will have to find another trucker if better insurance is not obtained immediately. The phony traffic association will be glad to furnish this "better insurance."

In a tough spot, the fleet operator bites a surprising number of times and the broker takes his policies back to the office, cancels the insurance and places it elsewhere. The new insurance may not be as good but the broker makes more money. The really "skillful" broker resells the insurance several times and while he is peddling it all over the insurance district the premium rate is climbing, which leaves the fleet operator to supply remuneration through the nostrils.

So far all of the protection agencies mentioned have been concerned with protecting fleet operators, with the operators paying the bill. Now we come to the newest racket which is designed to protect truck drivers and the fleet operator is still called upon to supply the money.

IN one of our large cities a drivers' union has placed an impost of 7 cents per crate on eggs that arrive in the city by motor truck. The idea being—no matter how dizzy it sounds to you—that eggs that arrive by motor truck get to the address the shipper sends them without any additional handling. You may think that the elimination of the extra handling is desirable but the local drivers' union does not agree. The money saved by the shipper in the direct handling is money that the local cartage companies do not get and consequently the local drivers do not get.

If in the course of time, they are able to jack up the amount of the impost and put it in effect on enough commodities, idle truck drivers will make more money than those that work if the union officials do not let too much of the money get permanently frozen in handling.

How do the drivers collect the impost? They refuse to deliver eggs to dealers from such brokers who in turn refuse to collect the 7 cents per crate (to be passed on to the union) from the trucker who brings the eggs to him. It has been estimated that there are about 100 drivers aided by the impost.

CUT LABOR COSTS

by the use of regular Gardiner Acid-Core Solder for all repair work. Its uniform high quality and perfect flux permit faster and cleaner work, saving both time and material. The high tensile strength insures permanent bonds.

Because of modern production methods Gardiner costs no more than ordinary solders. Order it by name from your jobber.

Gardiner
METAL CO.

4832 So. Campbell Ave., Chicago, Ill.
Also makers of babbitt, body, bar and wire solders.

A Tight Connection All the Time



TRADEMARK
NOC-OUT
THE
HOSE CLAMP
WITH THE THUMBSCREW

Standard equipment hose clamp of the automotive and airplane industry. Your jobber has them.

4307 W. 24TH PL. **WITTEK**
CHICAGO, ILL. MFG. CO.

VALVES, PISTONS
PISTON PINS
VALVE GUIDES
VALVE SEAT INSERTS
CYLINDER SLEEVES
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CHASSIS BOLTS
TRYON SHACKLES
SILENT "U" SHACKLES
ECCENTRIC and
RUBBEROD TIE RODS
OILITE BUSHINGS



Thompson Products

STOP THAT WASTE / from IDLING MOTORS

MOTO-KOP stops the motor when the truck is idle. Positive. Tamper-proof. Pays for itself in 3 months in reduced gas and maintenance costs.

The MOTO-KOP
Automatic Ignition Control



PATENT PENDING
**ROBIE AUTOMOTIVE
ENGINEERING CORP.**
1040 Boylston St., Boston

Increase Shipping Floor Capacity

Make Extra Trips With Trucks
You Have Now

— BY USING —

**"ROLOFF DEMOUNTABLE
BODIES**

ASK US HOW

ROLOFF, INC.
KENDALL SQUARE
CAMBRIDGE, MASS.

Mechanical Memos

(CONTINUED FROM PAGE 17)

B. Always allow clutch pedal to come back gradually—never fast, as this will cause serious damage to transmission, drive shaft and rear axle.

- C. Don't try to hold car on upgrade by slipping the clutch.
D. Don't ride the clutch pedal.

5. How would you locate trouble in clutch?

A. Clutch pedal falls to floor. Inspect for clevis pin missing. Clutch slip. See that clutch pedal does not hit floor boards. If it does, have same adjusted for clearance at nearest company garage.

6. What is proper use of transmission?

- A. Always start off in low speed (2nd speed, empty on 5-speed transmission).
B. Always try to shift without grinding gears. Never clash gears.
C. Always use the proper speeds for pulling or descending hills.
D. Shift lever sticks in speed. Move car and at the same time try to release the lever by using snappy jerks.

7. How would you locate trouble in drive shaft?

A. When car won't move, put shift lever in low gear. Get out and look under car and see what part of shaft fails to turn and is, therefore, at fault. Call garage.

8. How would you locate trouble in rear end?

A. When car won't move, put shift lever in low gear, get out and look under car. If drive shaft turns to rear end, either axle shaft is broken or some other part of rear end is at fault.

9. What is proper use of steering gear including arms, knuckles, etc.?

A. By all means do not hit curb with wheels (front) as this has a tendency to bend steering cross rod or steering arms, which in turn throws front wheels out of alignment and ruins tires.

10. How would you locate trouble in steering gear?

A. When steering wheel is turned and car does not respond, inspect the following: (1) Drag link—from steering post to left steering arm. Look for break in rod. (2) Drop arm—from bottom of steering post to drag link. Look for break. (3) Left and right steering arms—Determine which part is at fault. Call garage. The left or right side of car is determined from driver's position in car.

11. How would you locate trouble in accessories?

A. Lights. If one light goes out, examine for loose or faulty connection by shaking the wire or socket. Examine for burned-out bulb. If all lights go out at once, try light switch in other positions, such as cowl-light position. If cowl lights fail to light, fuse has blown. Replace fuse or wrap old fuse with tinfoil and replace.

B. Horn. If horn fails to blow, look for broken or loose wire or defective horn button.

C. Oil gage. If oil gage does not register, stop motor, check oil level and if low, refill to proper level. Examine oil pipes for breaks.

D. Ammeter. Turn off all lights and race motor slightly. If the hand on the ammeter does not register on the charge side of the gage, call garage.

E. Gas gage. If gas gage registers empty, check gas tank.

12. What is the proper treatment of springs?

A. Never overload springs. Don't speed over rough roads. Location of trouble in springs—If car sags to one side, examine spring for broken leaves.

13. How would you locate trouble in the following types of brakes?

A. Mechanical. If brakes fail suddenly, look for broken rod or missing clevis pin.

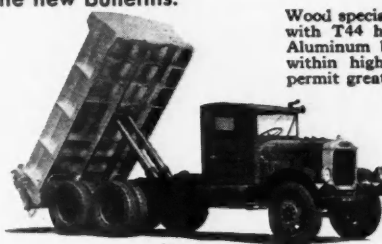
B. Hydraulic. If brakes fail suddenly, look for broken pipe or hose.



DUMP BODIES and HOISTS for every hauling need

● Truck dealers find it helpful in their selling and time saving by keeping in mind the fact that there is a WOOD Hoist and Body for every service and for every truck chassis. Wood Equipment assures lower yardage and tonnage costs... as well as better performance and complete customer satisfaction.

Ask the nearest WOOD Distributor or Factory Branch for the new bulletins.



Wood special W12 aluminum dump body with T44 heavy duty telescoping hoist. Aluminum bodies keep the gross weight within highway weight limitations and permit greater payloads.



Wood W12 heavy duty 4 yd. dump body on semi-trailer used with 1 1/2-ton tractor for hauling gravel. Hoist is F4C cam and roller type.



Wood W12 heavy duty 4 yd. body with F4CA cam and roller type hoist. Showing large capacity load handled by 1 1/2-ton chassis with third axle attachment.

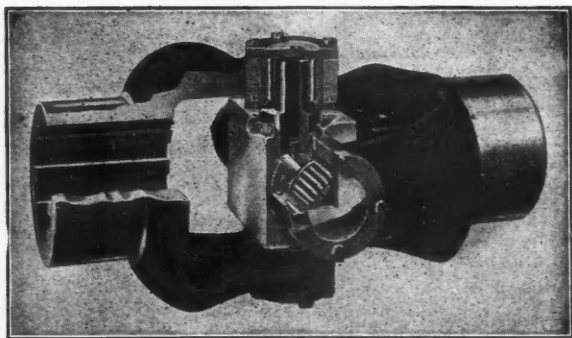
Wood 8 cu. yd. body with 8 cu. yd. top box installed with model TV7 hoist on semi-trailer chassis. Body sides, as well as top box can be removed when desired.



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HOIST AND BODY DIVISION
7924 RIOPELLE STREET DETROIT, MICHIGAN

BLOOD BROTHERS *offer* another contribution to the improvement in automotive units

★ Complying with the demand for increased speed in operation, Blood Brothers now offer the New "W SERIES" universal joint embodying practical improvements in the complete line of heavy duty, single and double universal joints and propeller shaft assemblies, of the roller or anti-friction bearing type.



To the fundamentally sound and rugged design of the Model BW, which the new series supersedes, the new roller type of bearing has been incorporated. The "W SERIES" uses the same yoke and the center cross design remains practically unchanged.

While retaining the simplicity and sturdiness of the well known and proven Model BW, new frictionless bearings have been added, operating speeds have been safely increased and greater load capacity provided. The new Series W Joints have better lubricant retention, smaller rotating diameter and offer a practical contribution to the continual demand for improvement in automotive units.

BLOOD BROTHERS Engineering Department will gladly investigate your problems and estimate on your requirements, basing their recommendations on more than 30 years of experience in rendering highly specialized service to leading motor car manufacturers.

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Allegan,

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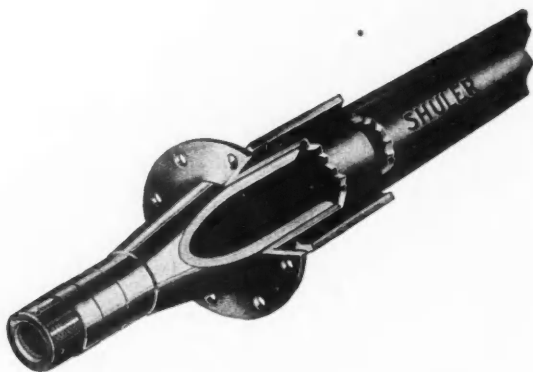
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HAVE WON THEIR PLACE IN THE SUN

Just 2½ years ago the first Shuler Tubular Trailer Axle was introduced to the public.

In the time that has intervened these axles have "proved up" in every way. Many outstanding records both in economy and endurance have been made.

We'd be glad to send you specific examples of Shuler installations, together with specifications of axles to meet your needs. Write today.



SHULER AXLE COMPANY, Inc.

W. E. Dugan, President and General Manager

Louisville, Kentucky

Built-to-order

FOR FLEET OPERATORS

This New Alemite Powergun Is A Lubrication Cost-Cutting Sensation!

LOOK AT THESE FEATURES • CAN YOU THINK OF ANY POWER GREASE GUN THAT HAS THEM ALL?

ADAPTABILITY

Can be used as a portable unit—wheeled from job to job. Or it can be installed in a stationary position and lubricant piped to any number of outlets.

DELIVERS ALL GRADES AND TYPES OF LUBRICANT

Regular lubricants or extremely fibrous lubricants are handled by this Powergun with equal facility. And with no loss in pressures. There is, however, a variation in quantity delivery of these two lubricants.

COMPACT

Over-all dimensions as pictured here: 49½" high, 18" wide, 24" long.

ELIMINATES HANDLING OF LUBRICANT

Delivers lubricant from original container to the bearing surface. Prevents contamination—insures a better job—stops waste.

POSITIVE CONTROL

The new hand-control valve used with this gun fits Push-type and Hydraulic Fittings without adapters. And will deliver lubricant in large or small quantities under tremendous pressures at operator's will.

TONS OF PRESSURE

This new Powergun develops 33 times the air pressure used.



Model HP-100. Alemite Air-operated, 100-Pound, High-Pressure Barrel Pump.



Investigations in the fleet field—contacts made by Alemite Lubrication Engineers with operators of fleets of all sizes, mechanics and garage men—dictated the features incorporated in this new heavy-duty Alemite Powergun. It has been literally *built-to-order* to fleet operators' specifications—combining rugged dependability with the versatility and adaptability that make it the most efficient and economical powergun ever designed.

Get complete information on this remarkable new Alemite Powergun today. Learn how this modern, up-to-the-minute equip-

ment will bring you amazing savings in time, labor and lubricant. Get the real facts on this remarkable lubrication cost-cutting sensation. Send the coupon now. No obligation.

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Controlled Application of the Correct Lubricant

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(Div. of Stewart-Warner Corp'n.)
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Without obligation, please send me complete information on the new Alemite HP-100 Barrel Pump.

Name _____

Address _____

City _____

State _____

No. of Units in Fleet _____

JULY, 1935

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**.. has been Grooving
fleet tires with
KWICK-KUT
for over two years**

•••••

Write for Catalog—Free Trial

Kwick-Kut Mfg. Co., Inc.
3840 Arsenal St., St. Louis, Mo.

Safety Glass Laws in 15 States

Fifteen states have adopted safety glass legislation, according to an AMA bulletin. The states are: Indiana, Iowa, Massachusetts, Michigan, Missouri, Nebraska, New Jersey, New York, North Dakota, Ohio, Pennsylvania, Vermont, Virginia, West Virginia and Maryland.

In most cases the general tenor of these acts makes mandatory the equipment of motor vehicles manufactured or assembled after July 1 of this year with shatter-proof glass at all points where glass is used. The laws of Indiana, Missouri and Vermont differ from the other commonwealths in that the date of the measures' effectiveness is Jan. 1, 1936.

Borg-Warner Acquires Calumet

The Borg-Warner Corp. has acquired the capital stock of the Calumet Steel Co. of Chicago, and will operate the steel company as a subsidiary.

Krieter Joins Perfection Gear

Harry R. Krieter has joined the engineering staff of the Perfection Gear Co., Harvey, Ill.

CLASSIFIED

SALESMAN DISTRIBUTOR, finest Castor Penn Oils, Soaps, Polishes, for old reliable manufacturer. Carrying Small Stock necessary. Baums, Rome, N. Y.

Beaurline Fountain Brush

Reduces time and labor cost of cleaning equipment by one third... Thick mop of soft, tough 4" bristles woven into cast aluminum head with scratch-proof rubber gasket and guard fits onto water hose at end of 4-foot long handle. Used by many large operators for economy and efficiency.



SAMPLE!

List price \$9.00. Liberal discounts to Dealers and Fleet Owners. Sample sent for only \$7.50. Use coupon.

BEAURLINE FOUNTAIN BRUSH CO.
1619 S. State St., Chicago, Ill.
Enclosed find \$7.50; send me sample of your Fountain Brush and complete price quotations.
NAME
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HANDY HOIST

FIVE-TON

\$75

F.O.B. FACTORY

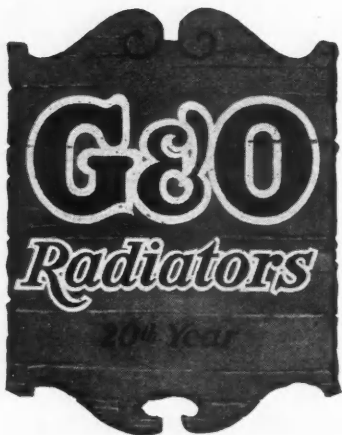
A hand hoist for trucks, trailers, wrecking cars, etc. Also suitable for structural erection, handling boilers, safes, machinery and other hoisting, hauling, loading and lifting. All steel construction. Has two-speeds, geared 4 1/3 to 1 and 23 to 1 with positive internal brake. Compactly built, 16" x 20" x 13". Weight only 125 lbs.



ALLOY STEEL & METALS CO.

1862 E. 55th St.,
LOS ANGELES, CALIF.

POWER—SPEED—STRENGTH

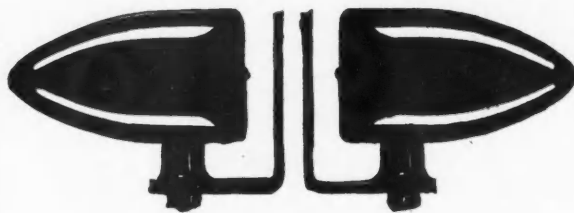


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(We Believe They're the Best)

They are designed and built for truck service. Strong, sturdy, efficient radiators that have been "delivering" for 20 years.

THE G&O MANUFACTURING CO.
NEW HAVEN CONNECTICUT



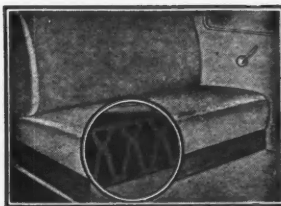
A paying investment

Watch for this trademark.

TURN SIGNAL
CORPORATION

400 E. Rittenhouse St. (Germantown), Phila., Pa.

THE MOST TALKED OF SEAT and BACK CUSHION



Showing the famous exclusive
Diamond grid construction

Karpex Black Diamond All-Rubber Seat Cushions have become the talk of fleet owners everywhere because — over a period of years they have proved themselves the most economical and practical cushion for every size and type truck. Made of special processed semi-sponge rubber to withstand the hardest use. Extremely comfortable and practically wearproof. Cost no more than ordinary cushions. Wire or write for complete information.

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